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Symposium on Chemotherapy

The July number of the *Medical Clinics of North America* comes from the Mayo Clinic and brings subscribers an outstanding 12-Clinic Symposium on Chemotherapy and, in addition, *15 other miscellaneous clinics* of great helpfulness.

The Symposium on Chemotherapy includes clinics on Use of Sulfonamide Compounds in Ophthalmology; Sulfonamide Therapy in Diseases of the Ears, Nose and Throat; Common Problems in Management of Pneumonia; Sulfonamide Compounds in Treatment of Diseases of the Intestine; Sulfonamide Compounds in Treatment of Infections of the Urinary Tract; Chemotherapy in Obstetrics and Gynecology; Prophylactic Use of Sulfonamide Compounds in Treatment of Rheumatic Fever; Sulfonamide Treatment in Dermatology; Use of Tyrothricin in Treatment of Ulcers of the Extremities due to Peripheral Vascular Disease; Penicillin in Treatment of Staphylococcic Sepsis; Sulfonamide Treatment of Bacteriemia and Acute Bacterial Meningitis; and Use of Sulfonamides in Treatment of Diseases of Infancy and Childhood.

As in the past the Medical Clinics of North America continue to bring subscribers postgraduate teaching from great medical centers throughout the country.

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AN ARSENICAL WITH A BRILLIANT RECORD OF EFFECTIVENESS AND SAFETY
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STUDIES ON THE DISTRIBUTION OF PENICILLIN IN THE EYE

AND ITS CLINICAL APPLICATION

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AND
MAJOR JOHN G. BELLOWS
MEDICAL CORPS, ARMY OF THE UNITED STATES

The remarkable success obtained in the treatment of severe infections with penicillin has naturally called attention to possible applications in ophthalmology. In general, the drug has proved to be very effective in the treatment of infections produced by Staphylococcus aureus, the pneumococcus, the hemolytic streptococcus, the gonococcus and the meningococcus. With the exception of the last, two mentioned organisms, penicillin is relatively ineffective against gram negative bacteria. Encouraging results already have been reported following its employment in cavernous sinus thrombosis, corneal ulceration, conjunctivitis,[1] orbital and facial cellulitis [2] and acute gonorrheal ophthalmia.[3]

In corneal infections experimentally produced with Staphylococcus aureus, Robson and Scott [4] found this drug to be very effective if applied within a reasonably short time. From these data they recommend that the local use of penicillin be given a clinical trial. Another investigator, von Sallmann,[5] produced intraocular infections in rabbits by introducing pneumococci and Staphylococcus aureus into the anterior chamber. It was very effective against the pneumococcus and Staphylococcus aureus but ineffective in combating the ensuing endophthalmitis after intralenticular injections of Clostridium welchi.

The only work that has been done on the penetration and distribution of penicillin has been its determination in a few of the body fluids. Florey and his co-workers have demonstrated its absorption and excretion in blood and urine. They found penicillin in the whole blood, bile and saliva but none in the pancreatic juice or tears of cats given the substance intravenously. They have shown that penicillin does not become inactivated when incubated for three hours with slices of kidney, spleen, brain, muscle, lymph gland, lung and intestine of rabbits. Rammelkamp and Keefer [6] have investigated the absorption and excretion of penicillin after intravenous, intramuscular and subcutaneous injections. They found that penicillin failed to penetrate red blood cells in significant amounts (less than 10 per cent of the plasma concentration), and that it failed to enter the spinal fluid, tears or saliva. Von Sallmann and Meyer,[7] studying the penetration of the drug after local and systemic application, demonstrated penicillin in the aqueous humor; it was particularly high after iontophoresis. In two tests the vitreous humor was negative. When the administration was systemic, paracentesis led to a manifold increase in the secondary aqueous.

Since the efficiency of a chemotherapeutic agent depends not only on its potency but also on its diffusibility and concentration in the infected part, it was considered desirable that investigation be undertaken to secure information on the distribution of penicillin in the eye and other organs and body fluids.

EXPERIMENTAL STUDIES

A. *Distribution After a Single Massive Dose.*—General anesthesia was induced in dogs by the intravenous injection of sodium amytal (0.045 Gm. per kilogram of body weight). Then 12,800 units of penicillin per kilogram of body weight in a highly concentrated form (20,000 units per cubic centimeter solution) was injected intravenously. At specified time intervals blood samples were withdrawn, eyeballs enucleated and body tissues removed for analyses. Caution must be exercised in interpreting results, since the number of experiments performed was small. After removal of the eyeball the aqueous humor was aspirated and the globe dissected into the following components: lens, vitreous humor, cornea, sclera and chorioretinal layer. All tissues but the vitreous humor were immediately weighed and transferred to mortars, where they were thoroughly ground with sand mixed with a minimum volume of saline solution. It was found that no appreciable differences were obtained if the tissues were ground after rapid freezing or prepared in the usual manner. Each mixture was transferred quantitatively to a 15 cc. tube and centrifuged from five to ten minutes. The supernatant liquid and washings were combined and brought up to a specified volume. Aliquot portions were removed and assayed by the method developed by Florey and his associates. The Oxford writers admit that this test has a ± 25 per cent error, but they doubt if other methods are more accurate. They claim that their method has the advantage of being many times more rapid and can be carried out with small amounts of fluid. The vitreous humor

The laboratory investigation was carried out with the aid of Dr. K. K. Chen and his associates at the Lilly Research Laboratories, Eli Lilly and Company, Indianapolis.

1. Abraham, E. P.; Chain, E.; Fletcher, C. M.; Gardner, A. D.; Heatley, N. G.; Jennings, M. A., and Florey, H. W.: Further Observations on Penicillin, Lancet **2**: 177, 1941.
2. Herrell, W. E.: Gramicidin and Penicillin, Surg. Clin. North America **23**: 1163, 1943.
3. Griffey, W. P.: Penicillin in Treatment of Gonorrheal Conjunctivitis, Arch. Ophth. **31**: 162 (Feb.) 1944.
4. Robson, J. M., and Scott, G. I.: Local Chemotherapy in Experimental Lesions of the Eye, Lancet **1**: 100, 1943.
5. von Sallmann, L.: Penicillin and Sulfadiazine in the Treatment of Experimental Intraocular Infection with Pneumococcus, Arch. Ophth. **30**: 426 (Oct.) 1943; Penicillin and Sulfadiazine in the Treatment of Experimental Intraocular Infections with Staphylococcus Aureus and Clostridium Welchi, ibid. **31**: 54 (Jan.) 1944.
6. Rammelkamp, C. H., and Keefer, C. S.: The Absorption, Excretion and Distribution of Penicillin, J. Clin. Investigation **22**: 425, 1943.
7. von Sallmann, L., and Meyer, K.: Penetration of Penicillin into the Eye, Arch. Ophth. **31**: 1 (Jan.) 1944.

(stirred vigorously until it became fluid), aqueous humor, blood and bile were tested without dilution.

Penicillin was found to penetrate into the eyeball with great rapidity. After fifteen minutes the penicillin content was found to be at its highest peak of concentration in the chorioretinal tissues and extraocular muscles. After the initial sharp rise, the aqueous humor and the relatively poorly vascularized conjunctiva and sclera showed a slow continuous increase until the end of the first hour. The blood penicillin was at its highest level directly after the injection and fell immediately. The concentration of penicillin was found to be in the following order: extraocular muscles, sclera, conjunctiva, blood, chorioretinal layer and the aqueous humor. The penicillin content of the vitreous humor and cornea was always less than .0.2 Oxford unit per gram of tissue, while the lens was consistently negative. The tears of dogs, contrary to the negative findings of Florey and his associates on the cat and of Rammelkamp and Keefer on man, showed a moderate concentration of penicillin (3.19 at fifteen minutes). The drug concentration in those tissues and fluids attaining the highest peak fell the most precipitously. Thus, in the first fifteen minutes the penicillin content of the extraocular muscle reached a concentration of almost 15 units per gram of wet weight, while at the end of sixty minutes it fell to about 6 units. On the other hand the penicillin content per gram of wet weight of the chorioretinal layer was 2.05 units in fifteen minutes and 1.39 units at the end of sixty minutes. At the end of three hours penicillin was completely absent from the blood, but the ocular fluids and media with the exception of the crystalline lens still showed a trace of this substance.

B. *Penetration into the Eye After the Parenteral Administration of Penicillin in Approximate Clinical Doses.*—Instead of employing a dosage far exceeding that employed clinically, dogs were given 1,500 units of penicillin per kilogram of body weight either by a slow intravenous drip over a period of five or six hours or divided into three intramuscular injections at two hour intervals. The blood tested at hourly intervals throughout the experiment was always negative. Likewise, the ocular fluids and tissues tested at the end of three, four, five and six hours were entirely negative with two exceptions, in which a trace was found: one was a sample of conjunctiva examined at the end of six hours of a continuous intravenous administration, and the other exception was a specimen of aqueous humor aspirated immediately after the third intramuscular injection.

C. *Distribution of Penicillin in Eye After Subconjunctival and Topical Administration.*—If penicillin can readily reach the ocular media and tissues following its subconjunctival and topical application, a more effective and economical method of therapy might be achieved by local application rather than by intravenous administration. Since the effective dose for various infections is yet unsettled and the dosage of penicillin largely arbitrary, it was advisable to determine the tolerance of the ocular tissues to the subconjunctival and topical administration of penicillin.

The application of a 5 per cent solution of metycaine as a surface anesthesia preceded the subconjunctival injection of penicillin in rabbits. Penicillin in 500, 1,000, 2,500 and 5,000 units dissolved in 0.25 cc. of isotonic solution of sodium chloride was injected. With the exception of the eyeball receiving the 5,000 unit injection all globes showed a decreased amount of swelling in one hour, and the eyes were normal at the end of twenty-four hours except for the hyperemia at the point of injection. With the injection of 5,000 units, chemosis was pronounced at the end of one hour but at the end of twenty-four hours was greatly reduced. Since 2,500 units of penicillin was the highest concentration tested that was well tolerated, this quantity was used for the study of penicillin distribution following subconjunctival injection.

The reaction of the eyeball to topical applications of penicillin was tested on the corneas of rabbit and man. In the rabbit a constant contact of the cornea with a saline solution of penicillin containing as much as 20,000 units per cubic centimeter produced no staining with fluorescein or any other change visible to the naked eye. In man, solutions containing 10,000 units per cubic centimeter, dropped into the conjunctival sac produced only a slight smarting. Examination of the eyeball with the slit lamp and fluorescein staining revealed no alteration in the corneal epithelium.

(*a*) Subconjunctival Injection: After subconjunctival injections, eyeballs were removed at one-half and three hour intervals and the ocular tissues and fluids tested for the penicillin concentration. The penicillin content in the aqueous found with 2,500 units in this manner approximated that obtained by using forty times as much intravenously. The concentration reached in the cornea, vitreous humor, conjunctiva, sclera and iris with ciliary body exceeded many times that obtained by the intravenous route. Thus the cornea and vitreous humor, which barely showed a trace of penicillin when it was given intravenously by the subconjunctival route, reached the high value of 28 units in the cornea and 1.95 units in the vitreous humor (chart 3). One cannot rule out completely that leakage from the subconjunctival injection may lead to direct contact of the penicillin with the cornea. Unfortunately, after the intravenous injection the uveal and retinal tissues were not tested separately nor were they separated in anterior and posterior portions, so the value 2.03 units represents a mean of the entire retina and uvea. This value is in sharp contrast to the high values of 10.8 to 26.32 units per gram of iris and ciliary body obtained after the subconjunctival injection of much smaller amounts of penicillin. One disadvantage of the latter method is that the posterior uveal and retinal tissues showed little or no penicillin. Analyses of scleral tissue taken from the anterior portion of the globe gave values ranging from 163.23 to 194.40 units per gram, while those taken from the posterior portion of the globe showed a range from 92.54 to 93.31 units per gram. The conjunctival concentrations were extremely high, ranging from about 106 to 449 units per gram of tissue. In three hours most of the ocular tissues tested were essentially negative except for slight amounts in the aqueous and vitreous humors.

(*b*) Topical Application: Rabbits were anesthetized by intravenous injections of sodium amytal. An excess of solution containing 20,000 units of penicillin per cubic centimeter of isotonic solution of sodium chloride was placed in the conjunctival sac of the rabbit, and the lids were clamped sufficiently tight to prevent an escape of the fluid. At one-half, one and three hour intervals the eyes were irrigated with saline solution to remove any remaining penicillin. After enucleation of the eyeball, tests were made for the penicillin content in the manner already described. Chart 2 shows the rise in

concentration of penicillin in the aqueous humor. It reaches a value of 3.32 units per cubic centimeter in thirty minutes, a level maintained with little change for one and one-half hours; but at the end of the third hour an increase in the concentration was noted (14.2 units per cubic centimeter). The aqueous humor at this time was of amber color, resembling a dilute solution of the type of penicillin used in the experiment, showing that penicillin penetrates not only the cornea but also the chromatic material that is combined with it. The concentrations of the drug in the cornea and iris with ciliary body are very high. Although the penicillin content of the sclera following topical application was less than that obtained by subconjunctival injection, it was very much greater than that found after the intravenous injection (chart 3). Of all three routes employed, the topical application in the form of a prolonged corneal bath gives the highest value in the vitreous humor. The crystalline lens was always negative by any method of administration.

It was reasonable to expect that wetting agents having a definite influence in increasing the penetrability

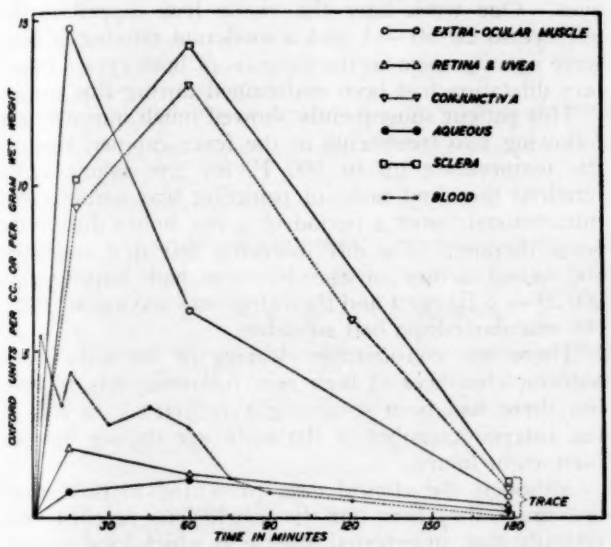

Chart 1.—Concentration of penicillin in the blood, ocular tissues and fluids following a single large intravenous injection (12,800 units per kilogram).

of sulfonamides might have a similar effect in increasing the penetration of penicillin.[8] However, the results were negative with an aerosol. In fact, there was a moderate decrease when penicillin was used with this wetting agent. Whether this resulted from a destruction of penicillin by the aerosol due to p_H changes or from other factors was not determined. Other wetting agents should be investigated.

D. *The Effect of Paracentesis on the Penicillin Content of the Aqueous Humor.*—The effect of paracentesis on the amount of penicillin in the second aqueous was undertaken. Rabbits were anesthetized by intravenous injection of sodium amytal, and penicillin was injected intravenously. A moderate increase in the second aqueous was noted, confirming the observation made by von Sallmann and Meyer. In view of the fact that the aqueous was removed at fifteen and forty-five minute intervals, a period of time for the penicillin concentration to increase normally (chart 1), it is quite possible that this noted increase might have been independent of the paracentesis. The experiment should be repeated with suitable controls.

E. *Penicillin in the Tears.*—Florey and his co-workers in England and Rammelkamp and Keefer in this

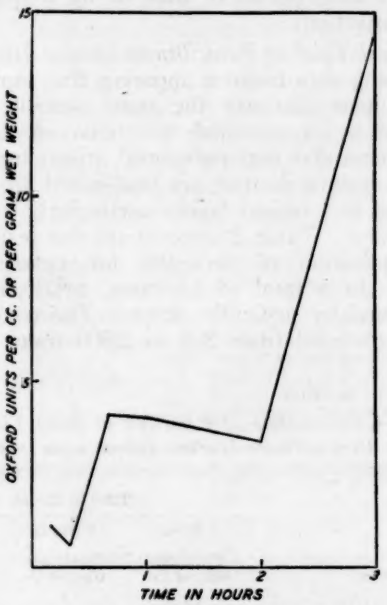

Chart 2.—Penetration of penicillin through the cornea.

country have reported the absence of penicillin in tears. After intravenous injection of 12,800 units of penicillin per kilogram of body weight the tears of dogs contained 3.15 units per cubic centimeter within fifteen minutes and 1.66 units per cubic centimeter within the secnnd fifteen minute period. The effect of lysozyme in tears was ruled out by testing tears

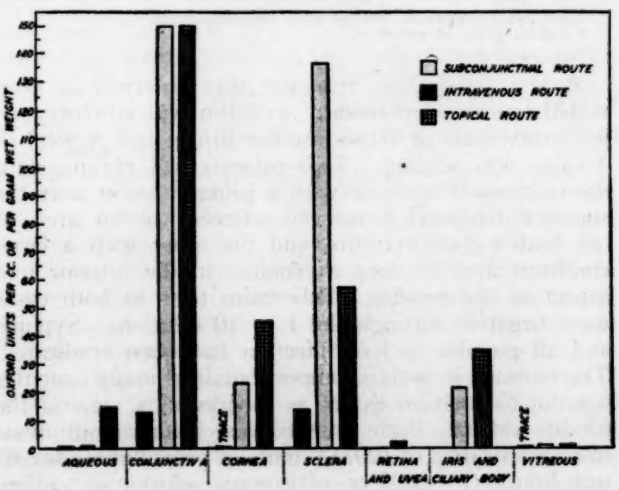

Chart 3.—A comparison of the maximal concentrations of penicillin in eyeball following intravenous, subconjunctival and topical administration.

before administering penicillin. However, the possibility of increased diffusion of serum and penicillin from the underlying capillaries due to conjunctival irritation must be considered.

F. *The Concentration of Penicillin in Other Body Tissues and Fluids.*—In dogs, after the intravenous injection of 12,800 units of penicillin per kilogram of body weight, various tissues and fluids were collected

8. Bellows, J. G.: Chemotherapy in Ophthalmology, Arch. Ophth. **29:** 888 (June) 1943. Bellows, J. G., and Gutmann, M.: Application of Wetting Agents in Ophthalmology with Reference to Sulfonamide Compounds, ibid. **30:** 352 (Sept.) 1943. Chinn, H., and Bellows, J. G.: Corneal Penetration of Sulfanilamide and Some of Its Derivatives, ibid. **27:** 34 (July) 1942.

at the end of one, two and three hour intervals. Table 1 shows that the concentration in the tissue is greatest at the end of the first hour and falls to a trace or becomes entirely negative within two or three hours. This gives substantial support for the clinical recommendation that penicillin be administered either by intravenous drip over a long period of time or by frequent intramuscular injections.

G. *Clinical Trial of Penicillin in Ocular Infections.*—The foregoing data make it apparent that topical applications of penicillin are the most suitable form of administration for external infections of the eyeball and its adnexa and that parenteral injections, although leaving much to be desired, are best suited for infections of the uveal and retinal layers particularly in the posterior segment. Table 2 summarizes the results of the topical application of penicillin for external ocular infections. In a total of 13 cases, gratifying results were obtained by penicillin drops. The concentration of the drug varied from 200 to 2,500 units per cubic centimeter.

TABLE 1.—*Concentration of Penicillin in Body Tissues and Fluids After a Single Massive Intravenous Injection*

	Time in Hours		
	1 Hour	2 Hours	3 Hours
Tissue	Units per Gm. or Cc.	Units per Gm. or Cc.	Units per Gm. or Cc.
Liver	4.77	*	*
Bile	6.65	..	4.99
Heart	2.41	..	*
Kidney	17.38	*	*
Lung	8.91	*	*
Voluntary muscle	1.90	*	*
Skin	6.06	*	*
Nerve	0	0	0
Brain	0 to *	0	0
Dura	0 to *	..	..
Bone marrow	0	0	0
Pancreas	2.69	..	*
Adrenal	2.72	0	0
Spleen	1.89	..	*
Buccal mucosa	8.39	*	0
Small intestine	9.68	..	0

Each figure represents two or more determinations.
* Equals trace of penicillin.

A less satisfactory response was observed in deep seated lesions even though penicillin was administered by intravenous or intramuscular injection. A total of 3 cases was studied. Two patients had chronic exudative choroiditis: one with a solitary lesion near the superior temporal periphery adjacent to an area of old healed chorioretinitis, and the other with a large confluent area of deep choroiditis in the inferior mid aspect of the fundus. Tuberculin tests in both cases were negative through the 1 to 10 dilutions. Syphilis and all possible foci of infection had been eradicated. The vitreous in both instances contained many opacities but not to such an extent as to prevent a view of the fundus lesions. Both patients were given a continuous intravenous drip of 100,000 units of penicillin for seventeen hours (in 1,000 cc. of isotonic solution of sodium chloride). This was followed by 100,000 units of the drug daily by intramuscular injection for the next two days. The 100,000 units was dissolved in 20 cc. of isotonic solution of sodium chloride so that each cubic centimeter contained 5,000 units. This was administered every three hours day and night. At the end of the seventy-two hours treatment neither case showed evidence of clinical improvement. Penicillin in the strength of 500 units per cubic centimeter was instilled every three hours day and night for ten days. At the end of that time both patients were again examined. There was no appreciable change in the appearance of the fundus picture, vitreous opacities or visual acuity.

The third case was one of subacute bilateral iridocyclitis with a unilateral macular edema of the left eye. This patient's eye condition was believed to be due to a recent neisserian infection which had recurred on two occasions—once following a third course of sulfathiazole and once following an inadequate dose of penicillin. At this time the urethral discharge had entirely subsided and prostatic findings were negative. All foci of infection had been eliminated. The condition had progressed in spite of atropine and hot compresses locally and repeated intravenous injections of typhoid vaccine with a poor febrile response.

Prior to the intravenous and intramuscular administration of penicillin for three days as outlined, the visual acuity of the right eye was 20/20 and of the left eye 20/70. There were many cells in the aqueous of both eyes. At the completion of the therapy described the vision of the left eye had improved to 20/30. At that examination it was noted also that practically all the cells had disappeared from the aqueous of both eyes. One week later the vision had slipped in the left eye to 20/50 — 1 and a moderate number of cells were again present in the aqueous of both eyes. Pupillary dilatation had been maintained during this period.

This patient subsequently showed much improvement following two treatments in the fever cabinet, running the temperature up to 106 F. for five hours. One hundred thousand units of penicillin was administered intravenously over a period of a few hours during the fever therapy. The day following this first treatment the visual acuity of the left eye had improved to 20/20 — 2 Jaeger 1 and thereafter was staying at 20/15. All macular edema had subsided.

There was considerable clearing of the cells in the anterior chambers of both eyes following this regimen but there had been some slight recurrence of cells in the anterior chamber of the right eye during the past forty-eight hours.

Although the clinical data presented in this report are small, they bear out the conclusions reached theoretically that, in external disease in which local application of penicillin could be brought in high concentration on the infection, the infection cleared rapidly. Infections of the chorioretinal layers in which the penicillin concentration was slight even after massive intravenous dosage showed little response.

COMMENT

The ready permeability of most of the tissues after the intravenous injection of penicillin is undoubtedly an important factor in its therapeutic efficacy. However, some very important exceptions exist: the cornea, lens, vitreous humor, cerebrospinal fluid, nerve, brain, dura and bone marrow show little or no penicillin after such injections. In one experiment erratic results were obtained with bone marrow. It must be emphasized that some preparations of penicillin have enormous potency and are effective in dilutions of over 1 to 100 million. Since amounts less than 0.1 to 0.2 unit are not measurable by Florey's method, it is still possible that bacteriostatically effective concentrations may be present in some of these tissues and organs.

Certain organs and tissues apparently extract large amounts of this substance from the blood stream and eventually may contain a concentration greater than that of the blood. For example, the extraocular muscles contain almost 15 units per gram of wet weight

within fifteen minutes, and the less vascularized tissues, such as the conjunctiva and sclera, obtain their maximum concentrations of 13 and 14 units per gram of wet weight at the end of sixty minutes. These values are about three times as high as that found in the blood at its peak, which is immediately after the injection. The data here presented suggest the possibility that some tissues may have a selective absorption for penicillin. The highest peak reached in the aqueous humor is at the end of one hour, resembling in this respect the conjunctiva and sclera. Both the aqueous humor and uveal and retinal tissues show but small amounts of penicillin, and therefore the decline is not as precipitous as in the case of those tissues which contain large amounts of penicillin (chart 1). The avascular cornea and vitreous humor either contained no penicillin or at the most showed a quantity less than 0.2 unit per gram of tissue. The factors that the lens is avascular and is surrounded by a capsule which may serve as a barrier are probably important in explaining its constant negative test.

The very high penicillin content in the kidney (17.38 units per gram) is not surprising in view of the fact that this organ is active in the excretion of the drug. Of possible clinical importance are the surprisingly high amounts found in the lungs (8.91 units per gram), skin (6.06 units per gram), buccal mucosa (8.36 units per gram), small intestines (9.68 units per gram), bile (6.65 units per cubic centimeter) and liver (4.77 units per gram). The saliva, contrary to the negative report of Rammelkamp and Keefer, showed a slight amount of penicillin.

It is interesting to speculate where the penicillin is "lost." Florey and his associates have demonstrated that the entire loss cannot be accounted for by the amount appearing in the urine. It is noteworthy that the bile contains a very high concentration of penicillin. Even at the end of three hours, when all other tissues and fluids are either negative or show only a trace of the drug, the bile contained about 5 units of penicillin per cubic centimeter (table 1). The Oxford investigators incubating penicillin with blood and various tissues at 37 C. for three hours observed no decrease in the potency of the drug. The intravenous or intramuscular injection of penicillin in dogs in therapeutic dosage gives a concentration of penicillin in the blood and most tissues too small to be detected by the usual methods of assay. Since it is advisable to give penicillin in large doses so as to prevent organisms (particularly the staphylococci) from becoming penicillin fast, it seems from the data reported here that the dosage which is considered by some clinicians to be sufficient, that is, 100,000 units daily for a 70 Kg. person, is really inadequate.

When penicillin can be applied topically, an enormous concentration can be achieved locally, which surpasses by far any value which can be secured even by the most massive intravenous doses. This procedure has the further advantage of saving a considerable amount of the drug. Subconjunctival injection up to 2,500 units and topical administration of a concentration up to 20,000 units of penicillin are well tolerated by the rabbit. By these means extremely high concentrations can be obtained in the tissues of the anterior segment of the eyeball. It must be pointed out that the rabbit's cornea has been shown to be more permeable to sulfonamides than those of the dog and man. A similar difference may exist with penicillin. Whether this variation in permeability is due to the reported differences in the thickness of the cornea is unknown. Friede [9] states that the thicknesses of the central por-

TABLE 2.—*Results of Topical Application of Penicillin for External Ocular Infections*

Patient	Diagnosis	Cultures	Medication	Results
N. L. W.	Chronic catarrhal conjunctivitis O. U.; granular blepharitis	.....	Penicillin drops, 200 units per cc.	Conjunctivitis cured in 24 hours; blepharitis unimproved
W. W. W.	Acute catarrhal conjunctivitis	Gram negative diplobacilli and hemolytic Staph. albus	Penicillin drops, 500 units per cc.	Control eye treated with 0.25% zinc sulfate; penicillin treated eye cured in 48 hours; control eye cured in 72 hours
M. H.	Acute hypertrophic catarrhal conjunctivitis with follicles O. D.; no preauricular glands; 10 days later similar onset in O. S.	Two cultures negative; third culture showed 1 colony of nonhemolytic Staph. albus	Penicillin drops, 200 units per cc.; later 500 units per cc.	Right eye (first involved) required 10 days for clinical cure; left eye cured in 3 days on 500 units per cc. solution
H. C. B.	Acute catarrhal conjunctivitis O. S.	Few bacteria only, not identified	Penicillin drops, 200 units per cc.	Cured in 24 hours
J. B. C.	Acute catarrhal conjunctivitis O. S.; 2 days later similar condition O. D.	Pure culture; Strep. viridans	Penicillin drops, 500 units per cc.	O. S. very much improved in 24 hours; cured in 48 hours; O. D. cured in 36 hours
H. C. H.	Acute catarrhal conjunctivitis O. U.	No growth	Penicillin drops, 500 units per cc.	Both eyes cured in 48 hours
R. S. S.	Acute catarrhal marginal ulcer O. S.	Nonhemolytic Staph. albus	Penicillin drops, 200 units per cc.	Cured in 12 hours; patient had had similar episodes previously, not treated with anything, which resolved in 12-24 hours
D. B.	Acute catarrhal conjunctivitis O. D.	No growth	Penicillin drops, 500 units per cc.	Cured in 24 hours
H. B. G.	Chronic catarrhal conjunctivitis O. U.; 15 years' duration with recurrent bouts of pain, redness and tearing; allergic studies negative; somewhat improved O. U.; autogenous vaccine over 3 months' time	Staph. albus and diphtheroids	Penicillin drops, 500 units per cc.	Lids much improved in 72 hours; penicillin continued for 3 weeks; objectively and subjectively there was great improvement
C. F. H.	Right acute episcleritis 1 day's duration	.....	Penicillin drops, 2,500 units per cc.	Eye white in 24 hours
R. S.	Acute conjunctivitis O. D.; first noticed on awakening	.....	Penicillin drops, 2,500 units per cc.	Much improved in 24 hours; normal in 48 hours
C. M.	Acute catarrhal conjunctivitis O. U.	Hemolytic Staph. albus	Penicillin drops, 500 units per cc.	Much improved in 24 hours; normal in 48 hours
A. F. B.	Acute conjunctivitis	Culture and smears negative	Penicillin drops, 2,500 units per cc.	Objectively and subjectively normal

9. Friede, R.: Vergleichende Studien zur Grösse der tierischen und menschlichen Hornhaut mit besonderer Berücksichtigung der menschlichen Megalcornea, Arch. f. Ophth. **131**: 1, 1934.

tions of the corneas of rabbit, dog and man are 0.8, 0.9 and 0.9 mm. respectively. At the periphery the thickness is even greater in man. However, the concentration reached in the anterior segment of the eyeball is so great that, even if the penetration in man should be only a small fraction of that found in the rabbit, the amount reaching the cornea, conjunctiva, sclera, aqueous and the anterior uvea will still be adequate for therapeutic effectiveness.

The amount of penicillin reaching the vitreous chamber, although slight, is much more than what can be obtained even after very massive intravenous doses. The extremely high corneal penetration reached after three hours of constant corneal bath with penicillin is surprising (chart 2). The constant moderate value for two hours followed by the rapid rise after that time suggests a change in corneal permeability permitting an increased penetration.

It would seem from the results of our investigation that, if the efficacy of the drug is dependent only on its concentration (an assumption for which there is no proof), the local application of penicillin to the eyeball should be effective in those infections with organisms susceptible to the action of penicillin, involving conjunctiva, cornea, sclera, anterior chamber, iris with ciliary body, and vitreous. Similar infections involving the posterior uvea and retinal layers will require the parenteral administration of large amounts of penicillin. But even after huge amounts the penicillin content in these tissues is low.

Bearing out these laboratory findings are the clinical results. Infections involving conjunctiva and cornea respond rapidly to penicillin locally. Infections involving the posterior uveal tissues seem uninfluenced even after massive intravenous doses.

SUMMARY

1. Penicillin can be detected in the eyeball within fifteen minutes after a large intravenous injection. The concentrations of the tissues and fluids examined, listed in decreasing order, are as follows: extraocular muscles, sclera, conjunctiva, tears, chorioretinal layer, aqueous humor, vitreous and cornea. The crystalline lens is negative. The value in the blood is highest immediately after the injection, drops to about half of the original level in one hour and is down to zero at the end of three hours. The extraocular muscle has its greatest concentration in fifteen minutes and drops precipitously from then on. The aqueous humor and the less vascularized tissues such as the conjunctiva and sclera after their initial sharp rise within the first fifteen minutes continue to increase slowly until the end of the first hour. Barely a trace of penicillin remains in the eyeball after three hours.

2. Penicillin administered intravenously and intramuscularly in amounts comparable to therapeutic doses ordinarily reaches such a slight concentration in the fluids and tissues that it is not measurable by the usual methods.

3. After subconjunctival injection, high and even enormous concentrations are reached in the cornea, iris with ciliary body, conjunctiva and sclera. There is a moderate amount in aqueous and vitreous humors. The posterior half of the chorioretinal layer and the lens show negative results. After a constant corneal bath of penicillin the results are similar, except that the concentrations in the aqueous, cornea, vitreous and iris with the ciliary body are higher and those in the conjunctiva and sclera are lower.

4. One hour after a huge intravenous injection of penicillin the body tissues and fluids examined, listed in decreasing order, are as follows: kidney, small intestine, lung, buccal mucosa, bile, skin, liver, adrenal, pancreas, heart, voluntary muscle and spleen. At the end of three hours all the tissues and fluids examined, except bile, show little or no penicillin. Bile at that time still retains 5 units of penicillin per cubic centimeter.

5. The clinical results of local application of penicillin in external ocular disease are encouraging. In a few deeply situated inflammatory lesions of the eye, little or no improvement is noted in spite of huge doses of penicillin given intravenously.

PENICILLIN IN THE TREATMENT OF OPHTHALMIA NEONATORUM

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Although the sulfonamides have been of great value in the treatment of ophthalmia neonatorum, certain problems have arisen in connection with their use which seemed to justify a study of the effects of penicillin.

For several years the Illinois Department of Public Health has provided hospitalization and treatment for patients with ophthalmia neonatorum. The plan provided for immediate hospitalization of the infant in a centrally located hospital where the services of an ophthalmologist and a pediatrician were available. The infants were treated with sulfonamides orally and with irrigations locally. Although no blindness resulted in some 35 cases so treated, it was found that many infants were either intolerant to the sulfonamides or quickly became resistant. Prolonged hospitalization usually was necessary before the infant could be discharged as clinically and bacteriologically cured.

STUDY

Through the courtesy of the Committee on Chemotherapeutics and Other Agents of the National Research Council, a limited supply of penicillin was made available to study its effect on ophthalmia neonatorum.

Of the 8 cases included in this study, 5 showed gram-negative intracellular diplococci on smear and organisms giving a positive oxidase reaction and fermentations typical of gonococci on culture.

Two cases showed gram-negative intracellular diplococci on smear and oxidase positive colonies of gram-negative diplococci on culture. The organisms isolated from these two cultures failed to grow on subculture.

In 1 case the etiologic agent could not be determined, although the clinical findings were typical of ophthalmia neonatorum (case 7).

Because of the lack of precedent it was necessary at the beginning of the study to outline more or less arbitrary procedures with respect to both the dosage of penicillin and the criteria of cure.

Ten thousand units of penicillin injected intramuscularly at intervals of three hours for a total of six injec-

From the Illinois Department of Public Health, Roland R. Cross, M.D., Director.

The penicillin was provided by the Office of Scientific Research and Development from supplies assigned by the Committee on Medical Research for clinical investigations recommended by the Committee on Chemotherapeutic and Other Agents of the National Research Council.

tions was selected as the original treatment schedule. Later this was felt to be inadequate and the dosage was adjusted individually for each case (table 1).

The criteria of cure chosen were (*a*) absence of clinical activity, (*b*) three consecutive negative smears for gram-negative intracellular diplococci and (*c*) three consecutive negative cultures for gonococci.

All patients received instillations of 0.5 per cent atropine sulfate and irrigations of sterile water during the acute clinical phase of the infection.

REPORT OF CASES

CASE 1.—A Negro girl born Nov. 19, 1943, with onset November 20, admitted November 23, received a total of 39 grains (2.5 Gm.) of sulfadiazine in several courses together with 2 per cent sulfathiazole solution irrigations in both eyes between the date of admission and Jan. 8, 1944. Sulfadiazine was stopped because of persistent vomiting. Smears and cultures from both eyes were positive for gonococci on January 8, and examination revealed moderate swelling and injection of both conjunctivas with a moderate amount of purulent exudate. The corneas were normal. The patient was given 60,000 units of penicillin intramuscularly over a fifteen hour period. Definite clinical improvement was noted at the end of twenty-four hours; there was no further discharge. Both eyes were clinically normal within three days and remained so thereafter. Cultures and smears became negative on the 2d day following completion of penicillin therapy. Except for one positive culture from the right eye on the 3d day, all cultures and smears remained negative.

CASE 2.—A white boy born Dec. 10, 1943, with onset December 22, admitted Jan. 10, 1944, received no treatment prior to admission other than silver nitrate prophylaxis at birth. Examination revealed moderate redness and swelling of both eyes externally. The conjunctivas were injected, and a frankly purulent discharge was present bilaterally. The corneas were clear. The patient received 60,000 units of penicillin intramuscularly during a fifteen hour period. Because of persistent clinical and laboratory findings a second course of 90,000 units (15,000 every three hours) was given on the 5th day of hospitalization but failed to effect any improvement. A short course of sodium sulfadiazine during the 13th to 16th hospital days likewise failed to elicit any response. On the 23d and 24th days a third course of penicillin was administered, 20,000 units for six doses followed by 10,000 units for six doses. The conjunctivitis continued unabated, and smears and cultures remained positive. Recovery finally occurred after the use of sulfonamides combined with foreign protein therapy.

CASE 3.—A Negro boy born Jan. 12, 1944, with onset January 17, admitted January 18, had been given silver nitrate prophylaxis at birth and boric acid solution irrigations following the onset. Intense swelling and redness of both eyes externally and pronounced chemosis and injection of the palpebral conjunctivas with a frankly purulent exudate were noted on admission. No corneal involvement was found. Over a fifteen hour period 120,000 units of penicillin was administered intramuscularly. Considerable improvement occurred in both eyes within eight hours after the beginning of therapy. Chemosis and injection gradually subsided, so that both eyes appeared normal on the 6th day of hospitalization and remained so thereafter. Following treatment, smears failed to show any intracellular diplococci and all cultures were negative.

CASE 4.—A white girl born Jan. 12, 1944, with onset January 27, admitted January 28, had been treated with silver nitrate at birth. On admission the right eye showed moderate swelling externally, a purulent discharge and injection and chemosis of the conjunctiva. The only involvement of the left eye consisted of slight conjunctival injection. The corneas were clear bilaterally. Initial smears and cultures revealed both gonococci and Haemophilus influenzae. The patient received 180,000 units of penicillin intramuscularly over a period of thirty-four hours (6 doses of 20,000 units followed by six doses of 10,000 units). Definite improvement was noted in nine hours, and both eyes were clinically normal on the 4th hospital day and remained so. Following the initial laboratory findings all cultures were negative for gonococci, and smears failed to show any intracellular gram-negative diplococci. Organisms resembling Haemophilus were seen in small numbers in both smears and cultures periodically throughout observation.

CASE 5.—A Negro girl born Jan. 31, 1944, with onset February 3, admitted February 4, with delivery by a midwife, received no treatment prior to admission. The left eye showed external swelling and redness with a frankly purulent discharge. The left palpebral conjunctiva was injected and chemotic. There were minimal findings in the right eye. The corneas were clear bilaterally. During thirty-six hours 180,000 units of penicillin was administered intramuscularly. Improvement was noticeable after the 2d injection, and the eyes were practically normal twenty-one hours after the beginning of therapy. All cultures were negative after completion of therapy, and smears failed to show any intracellular gram-negative diplococci.

CASE 6.—A Negro boy born Jan. 23, 1944, with onset January 28, admitted February 4, had been given only silver nitrate prophylaxis at birth. External redness and swelling, chemosis and purulent discharge were all present in the left eye. Minimal findings were seen in the right eye. The corneas were clear bilaterally. Initial smears were typical for gonococci in the right eye, and a culture revealed oxidase positive colonies of gram-negative diplococci which failed to grow on transplants and could not therefore be confirmed. The patient received 180,000 units of penicillin intramuscularly during a thirty-two hour period. At the time of the 4th injection definite clinical improvement was noted and by the 5th hospital day both eyes were clinically normal. All subsequent smears and cultures were negative following completion of therapy.

TABLE 1.—*Results of Treatment of Ophthalmia Neonatorum with Penicillin*

Case No.	Duration of Infection, Days	Etiologic Agent	Total Penicillin, Units	Beginning of Improvement, Hours	Clinical Cure, Days	Laboratory Cure, Days	Final Results
1	47	N. gonorrhoeae	60,000	24	3	9	Satisfactory
2	20	N. gonorrhoeae	330,000*	..	..	..	Unsatisfactory
3	2	N. gonorrhoeae	120,000	9	6	7	Satisfactory
4	2	N. gonorrhoeae, H. influenza (?)	180,000	9	4	6	Satisfactory
5	2	N. gonorrhoeae	180,000	6	6	24	Satisfactory
6	8	N. gonorrhoeae(?)	180,000	9	5	8	Satisfactory
7	4	(?)	230,000	..	..	..	Unsatisfactory
8	25	N. gonorrhoeae(?)	240,000	9	5	7	Satisfactory

* 60,000 units 1st day, 90,000 units 4th day, 180,000 units 22d and 23d days.

CASE 7.—A white boy born Feb. 21, 1944, with onset February 28, admitted March 1, had received silver nitrate prophylaxis at birth and instillations of mild protein silver during the three days following onset. The right eye was moderately involved with external redness and swelling, inflammatory chemosis and a purulent discharge. Slight conjunctival findings were present in the left eye. No gonococci were found in the initial smears or cultures, but in the latter several colonies of diphtheroids were isolated. These proved to be avirulent in guinea pigs. There were no other findings which helped to determine the etiologic agent, and smears taken from the child's mother proved negative for gonococci. Penicillin was administered intramuscularly every three hours, 15,000 units in each of six doses followed by 10,000 units for fourteen doses (total 230,000 units). Specific therapy was prolonged in this case because of its failure to effect adequate improvement in clinical findings at the end of fifteen hours. At the completion of therapy moderate improvement was noted, but for the next thirteen days the condition remained static and complete recovery was not achieved. Following a short course of sodium sulfadiazine during the 17th to 19th hospital days, both eyes quickly returned to normal. Smears and cultures failed to reveal any significant organisms throughout the entire period of observation.

Case 8.—A white boy born Feb. 19, 1944, with onset February 22, admitted March 17, concerning whose treatment prior to admission no information was available other than silver nitrate prophylaxis at birth, exhibited a bilateral purulent conjunctivitis at the initial examination. The conjunctival surfaces of the upper lids were granular. The corneas were not involved. Initial smears were typical for gonococci, and culture revealed oxidase positive colonies of gram-negative diplococci, which failed to grow on subcultures and could not therefore be confirmed. The patient received 20,000 units of penicillin intramuscularly every three hours for twelve doses (total 240,000 units). Definite clinical improvement was noted at the time of the 9th injection, and both eyes were clinically normal by the 5th hospital day. Smears and cultures reverted to negative on the 2d day of therapy and remained so thereafter.

Table 2.—*Results of Smears and Cultures During and Following Penicillin Therapy*

Hospital Day	Case 1 S	Case 1 C	Case 2 S	Case 2 C	Case 3 S	Case 3 C	Case 4 S	Case 4 C	Case 5 S	Case 5 C	Case 6 S	Case 6 C	Case 7 S	Case 7 C	Case 8 S	Case 8 C
Admission	P	P	P	P	P	P	P	P	P	P	P	P*	N	N	P	P*
9th hour	N	P	P	P	..	..	D	N	D	N	D	N	N	N	P	N
2.....	N	P	..	..	N	N	D	N	D	N	D	N	N	N	N	N
3.....	N	N	D	N	N	N	N	N	D	N	N	N	..	..	..	..
4.....	D	P	D	N	D	N	N	N	..	..	..	..	N	N	N	N
5.....	N	N	N	N	N	N	..	..	..	..	..	..	N	..	..	..
6.....	..	..	N	N	N	N	N	N	..	..	..	..	N	..	..	..
7.....	..	..	N	N	N	N	..	..	D	N	N	N	..	N	N	N
8.....	N	N	..	..	N	N	..	..	D	N	N	N	..	..	..	..
9.....	N	N	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10.....	..	..	..	..	..	..	N	N	..	..	..	..	..	N	..	..
11.....	..	..	N	P	..	..	..	..	..	..	..	..	..	..	..	..
12.....	..	..	..	..	N	N	..	..	..	..	..	..	..	..	..	..
13.....	..	..	N	N	N	N	..	..	..	..	..	..	..	..	..	..
14.....	..	..	N	P	D	N	..	..	..	..	..	..	..	N	..	..
15.....	..	..	N	N	..	..	N	N	..	..	..	..	..	N	..	..
16.....	..	..	..	..	N	N	D	N	D	..	..	..	..	..	..	..
17.....	..	..	..	..	D	N	..	..	D	..	..	..	..	..	..	..
18.....	..	..	..	..	N	N	..	..	D	..	..	..	..	..	..	..
20.....	..	..	N	P	D	N	..	..	..	..	..	..	..	..	..	..
21.....	..	..	D	P	N	N	..	..	..	..	..	..	..	..	..	..
22.....	..	..	D	P	..	..	..	..	N	..	..	..	..	..	..	..
23.....	..	..	..	..	..	..	..	..	N	..	..	..	..	..	..	..
24.....	..	..	..	..	..	..	D	..	N	N	..	..	..	..	..	..
25.....	..	..	..	..	D	N	D	..	..	..	..	..	..	..	..	..
26.....	..	..	..	..	D	N	N	N	..	..	..	..	..	..	..	..
27.....	..	..	N	N	..	..	..	..	..	..	..	..	..	..	..	..
28.....	..	..	D	N	..	..	..	..	..	..	..	..	..	..	..	..
29.....	..	..	N	P	..	..	..	..	..	..	..	..	..	..	..	..
30.....	..	..	..	..	..	..	N	N	..	..	..	..	..	..	..	..
31.....	..	..	..	..	..	..	N	N	..	..	..	..	..	..	..	..
32.....	..	..	..	..	..	..	N	N	..	..	..	..	..	..	..	..
33.....	..	..	P	N	D	..	..	..	..	..	..	..	..	..	..	..
34.....	..	..	P	N	D	..	..	..	..	..	..	..	..	..	..	..
36.....	..	..	..	..	N	N	..	..	..	..	..	..	..	..	..	..
40.....	..	..	..	..	N	..	..	..	..	..	..	..	..	..	..	..
41.....	..	..	..	..	N	..	..	..	..	..	..	..	..	..	..	..
57.....	..	..	N	..	..	..	..	..	..	..	..	..	..	..	..	..
59.....	..	..	D	..	..	..	..	..	..	..	..	..	..	..	..	..
60.....	..	..	..	N	..	..	..	..	..	..	..	..	..	..	..	..
62.....	..	..	..	N	..	..	..	..	..	..	..	..	..	..	..	..
66.....	..	..	N	..	..	..	..	..	..	..	..	..	..	..	..	..
67.....	..	..	..	N	..	..	..	..	..	..	..	..	..	..	..	..

* Cultures showed oxidase positive colonies of gram-negative diplococci which failed to grow on subculture and therefore could not be confirmed. S = smear, C = culture, P = positive, gram-negative intracellular diplococci in smears or gonococci in confirmed cultures, D = doubtful, gram-negative extracellular diplococci in smears, N = negative smear or culture, no gonococci.

COMMENT

Clinical Response.—All except 2 of the 8 cases in this series responded to therapy within twenty-four hours, as manifested by subsidence of active inflammation. Case 2 and case 7 showed some improvement during and immediately after penicillin therapy but, instead of progressing to complete recovery as did the other 6 cases, again developed signs of active inflammation. Repeated courses of penicillin in case 2 produced the same initial response of short duration, followed by relapse.

Because of the large amount of penicillin given initially in case 7, it was not felt that a repeated course would be effective.

In the 6 cases that responded to the specific therapy, clinical recovery occurred in from three to six days, with complete absence of purulent discharge, chemosis and injection.

No corneal complications developed in any of the 8 cases.

As can be seen in cases 1, 3, 4, 5 and 6, occasional gram-negative extracellular diplococci were found on smears taken at varying intervals, even though cultures remained negative and the eyes were clinically normal. No further treatment was given and these cases were kept under observation until three consecutive negative smears and cultures were obtained.

Because of the persistence of clinical activity in case 2, treatment was continued despite the three consecutive negative smears and cultures obtained early in the period of observation, and later both smears and cultures were again found positive.

The treatment progress of each case is outlined in table 1.

Bacteriologic Response.—Smears and cultures were taken in all cases before beginning therapy, at the time of the third injection of penicillin and at intervals thereafter until the bacteriologic criteria of cure as outlined had been fulfilled.

As shown in table 2, all cases except 2 and 8 showed the absence of gram-negative intracellular diplococci in the smears taken at the time of the third injection, although smears in cases 4, 5 and 6 showed the presence of extracellular organisms. Cases 1 and 2 also gave positive cultures at this time, but cultures for all other cases were negative.

Of those cases that responded to penicillin, only 1, case 1, showed a positive culture after the 3d injection of the drug.

Reactions.—A possible reaction to penicillin was observed in case 2. Four days after the second course of penicillin a generalized papular eruption occurred and gradually subsided. Following the third injection of the third course the patient developed a generalized vesicular rash, which subsided during the following ten hours even though penicillin injections were continued. The day after completion of the 3d course a typical urticarial eruption was noted on the trunk and scalp. Although no additional penicillin was administered, the child continued to develop periodic allergic skin manifestations in the form of vesicular, urticarial and pustular lesions.

SUMMARY

1. Eight cases of ophthalmia neonatorum were treated with intramuscular injections of penicillin in total dosages varying from 60,000 to 330,000 units.

2. In 5 of the 8 cases the etiologic agent was definitely established as Neisseria gonorrhoeae by confirmatory fermentation tests; in 2 of the cases gram-negative intracellular diplococci gave positive oxidase reactions when grown on chocolate agar but could not be subcultured for confirmatory fermentation tests; in 1 case the infective agent could not be determined.

3. Six of the 8 cases responded promptly to penicillin with pronounced clinical improvement within twenty-four hours and complete recovery within three to six days.

4. The disappearance of specific organisms in smears and cultures was noted in from nine to twenty-four hours after beginning treatment with penicillin.

PHLEBOTOMUS (PAPPATACI OR SANDFLY) FEVER

A DISEASE OF MILITARY IMPORTANCE

SUMMARY OF EXISTING KNOWLEDGE AND PRELIMINARY REPORT OF ORIGINAL INVESTIGATIONS

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(Concluded from page 606)

CLINICAL MANIFESTATIONS

Since there is as yet no specific diagnostic test for the individual case of Phlebotomus fever, it has always been difficult to know which variations from the typical syndrome could be correctly interpreted as manifestations of the same disease. During the course of various experiments in the present investigation more than 100 cases of the experimentally produced disease were observed. The following description of the various clinical manifestations is based on these observations:

Incubation Period.—Following intracutaneous injection of the virus, approximately 95 per cent of the persons developed the disease after an incubation period of about two and one-half to six days. There was 1 case after seven and nine days each and 1 probable case after fifty hours. Following intravenous inoculation, however, an incubation period of forty-two to forty-four hours was observed in 7 persons.

Fever.—Fever is unquestionably the most constant and, on occasion, perhaps the only sign. A few persons were encountered who developed the leukocyte changes characteristic of the disease without exhibiting any fever. Approximately 65 per cent had temperatures of 102 F. or more. Temperatures higher than 104.5 F. were not encountered, and only about 8 per cent had temperatures between 104 and 104.5 F.; only about 2 per cent had temperatures under 100 F. The duration of fever varied from part of one day to as long as nine days. The two, three and four day fevers, however, constituted 85 per cent of the total. In table 1 the duration of fever in 100 cases of experimental Phlebotomus fever is compared with that observed by Simmons, St. John and Reynolds [18] in 81 cases of experimental dengue. Although in dengue also the duration of fever may vary from one to nine days, it is noteworthy that the five, six and seven day fevers constitute about 80 per cent of the total. Some of the varieties of temperature curves encountered in experimental Phlebotomus fever are shown in figure 3. The peak is reached on the first or second day and defervescence is usually gradual. Occasionally the temperature rises again after it has been normal for a day. Multiple cycles of fever will be described later under recurrences.

Pulse Rate.—On the first day of the disease the pulse rate is usually elevated, sometimes in proportion to the fever. Thereafter it returns to normal more rapidly than the temperature. A true bradycardia is not always present, but when it occurs it is observed in the range of 42 to 60 at the end of the febrile period and during convalescence. The blood pressure is frequently low during the disease and convalescence.

Signs and Symptoms.—The disease is sudden in onset in the majority of cases. In some it is preceded by constipation, abdominal distress, giddiness and generalized malaise. The following signs and symptoms were encountered at the onset or sometime during the course of the disease, although many of them were frequently absent in otherwise typical cases:

1. Headache, usually severe and characteristically frontal or behind the eyes.
2. Burning sensation or pain in the eyes especially on movement; photophobia.
3. Generalized malaise, stiffness of the neck and back, backache especially in the sacroiliac region, and rheumatic-like pains in the joints and extremities.
4. Anorexia, nausea and not infrequently vomiting associated with ill defined abdominal distress. Constipation is more common at onset and diarrhea at the end of the disease and during convalescence.
5. Mild soreness of the throat and occasionally epistaxis.
6. Chilliness or short chills, but not real shaking chills, at the onset or during first two days.
7. Profuse perspiration during the course of the disease and preceding defervescence.
8. Giddiness or dizziness associated with great fatigue or weakness, especially during convalescence.

TABLE 1.—*Duration of Fever in Experimental Phlebotomus and Dengue Fevers*

Days of Fever	Phlebotomus Fever: Authors' Data Per Cent or Cases	Dengue: Simmons, St. John, Reynolds [18]	
		Per Cent	Cases
Part of 1	6	0	0
1 to 2	22	2.5	2
2 to 3	43	3.7	3
3 to 4	20	12.3	10
4 to 5	4	19.8	16
5 to 6	2	45.7	37
6 to 7	1	13.6	11
7 to 8	0	1.2	1
8 to 9	2	1.2	1
Total	100	100.0	81

On physical examination one is frequently struck by the flushed or scarlet appearance of the face and neck, strongly resembling the acute erythema which follows sunburn. The conjunctival vessels may be decidedly congested, and this congestion is occasionally limited to the exposed portion of the ocular conjunctiva. The eyeballs may be very tender to the touch and painful on movement in any direction. In the mouth one may find congestion of the fauces, soft palate and posterior pharyngeal wall, but the pronounced swelling or redness of the tissues seen in bacterial infections of the throat was not encountered. Although some writers [19] have described crops of vesicles without any inflammatory reaction at the junction of the hard and soft palates in natural cases of the disease, they were not observed in this series of experimental cases. Nasal catarrh and bronchitis are not a part of this disease. No objective evidence of nuchal rigidity was observed in any patient complaining of pain or stiffness in the back of the neck. The skin is hot and excepting the erythema of the face, neck and occasionally of the anterior part of the chest (and the papules resulting from insect bites on the exposed parts which may sometimes be found in natural cases) rarely present a true rash. There are certain exceptions, however. In the present experi-

18. Simmons, J. S.; St. John, J. H., and Reynolds, F. H. K.: Experimental Studies of Dengue, Philippine J. Sc. **44**:1, 1931.

19. Birt, C.: Phlebotomus Fever, Brit. M. J. **2**:168, 1915. Walker, A. S., and Dods, L.: Clinical Impressions of an Epidemic of Sandfly Fever in Palestine During 1940, M. J. Australia **1**:345, 1941.

mental series inoculated with serum virus 1 patient presented a generalized rash resembling both urticaria and erythema multiforme during the entire febrile period, which in his case was five days. Another presented an erythematous, maculopapular eruption which appeared on the second day of the fever over the lower halves of the posterior aspect of both thighs; the papules ranged in size from 2 to 8 mm. in diameter, were confluent in part and faded on pressure; there was no itching, and it became scaly on the fifth day. Certain other patients presented minute, indefinite erythematous blotches about the sebaceous follicles especially low in the axillas, on the lateral aspects of the chest and abdomen and around the elbows and knees. One patient presented large purpuric areas which appeared spontaneously around both knees. It should be stressed, however, that 90 to 95 per cent of the cases presented no eruptions of any kind. Occasional skin rashes of similar type were also observed by one of us (A. B. S.) in natural cases of the disease among

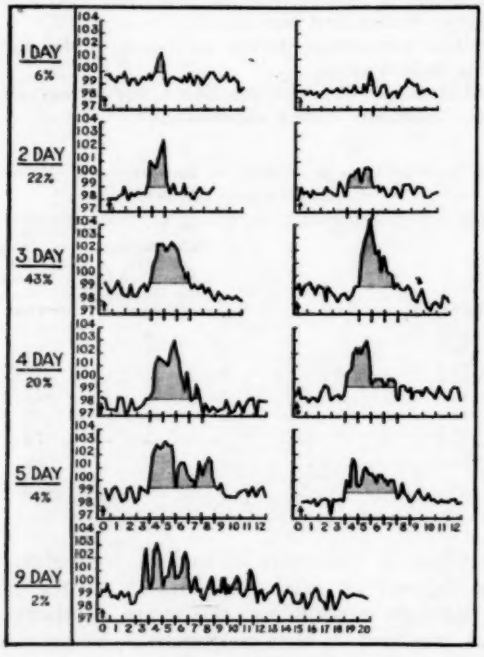

Fig. 3.—Various types of fever produced by experimental inoculation of Phlebotomus fever virus in human beings.

American troops in Sicily. Franz, writing in 1909 in the monograph by Doerr, Franz and Taussig,[1] makes similar observations and states that when careful examination was made some sort of skin involvement could be found in about 30 per cent of the cases, exclusive of the facial erythema and insect bites. It may be of interest that herpes simplex did not develop in any of our experimental cases, and we have seen it only once among some hundreds of natural cases.

The remainder of the physical examination was as a rule negative. The liver and spleen were not palpable. It is noteworthy that lymphadenopathy, which is common in natural and experimental dengue,[18] did not occur or was uncommon in Phlebotomus fever.

The systemic symptoms disappear in some while the temperature is still elevated, while in others they may persist after defervescence. Convalescence is variable—some feel fit even before the fever has completely returned to normal, while others remain giddy, weak and depressed for varying periods thereafter.

Complications or Sequelae.—Only a few complications developed among more than 100 of our experimental cases. Two patients developed urinary retention at the end of the febrile period requiring catheterization; this lasted only a few days, however. One of the volunteers, who had "encephalitis with diplopia" six years before, again developed diplopia of about one week's duration during his convalescence from Phlebotomus fever. In 1 of the patients who had fever for nine days (fig. 3) with characteristic leukopenia an x-ray film of the chest taken ten days after onset revealed a large area of consolidation in the basal portion of the right upper lobe. This was not associated with any symptoms of lower respiratory involvement since there was no cough, expectoration, pain in the chest, dyspnea or increased respiratory rate. The consolidation had resolved to a considerable extent nine days later. With these exceptions, recovery was uneventful in all instances.[20]

CLINICAL LABORATORY DATA

Observations were made on the urine, the cerebrospinal fluid and the blood, including determinations of the erythrocyte sedimentation rate, serum phosphatase and the Hanger[21] cephalin-cholesterol flocculation test for liver damage.

Urine.—The urine of a number of volunteers was tested daily during the course of the disease and convalescence without the discovery of any abnormalities. The occasional dark color seemed to be due to concentration; tests for bile were uniformly negative. No real albuminuria was encountered during the febrile period; in less than 3 per cent there was a transitory faint trace reaction.

Cerebrospinal Fluid.—Lumbar punctures were performed on 5 volunteers: 2 on the first day and 3 on the second day of the disease. The cerebrospinal fluid was not under increased pressure and was normal as regards cells, protein, sugar, chlorides and the colloidal gold test. Inoculation of this fluid into susceptible human beings did not produce the disease, while the blood serum from the same volunteers did.

Blood.—No change in the number or character of the erythrocytes was found. The changes in the leukocytes, however, constitute the only positive clinical laboratory finding in this disease. During the course of this investigation it was realized that repeated total and Schilling differential leukocyte counts were necessary to establish whether or not the disease had been produced in any 1 individual. To date approximately 2,000 total counts and smears have been studied on over 150 human beings, and the following remarks will be based entirely on the observations made on persons with the experimental disease. The occurrence of a leukopenia in this disease has been known for many years[1] and the appearance of many immature neutrophils in natural cases has been reported more recently.[22] However, the quantitative relationships of the various types of cells to one another at different times during the febrile period and convalescence have not been sufficiently appreciated heretofore and are of the greatest

20. One pool of serums obtained from patients in the Middle East apparently contained the "virus" of infectious hepatitis as well as that of Phlebotomus fever. Four of 10 volunteers inoculated with this pool developed jaundice two to four months later. The "virus" of infectious hepatitis seems to have been eliminated, however, by one passage through Phlebotomus papatasi.

21. Hanger, F. M.: Serological Differentiation of Obstructive from Hepatogenous Jaundice by Flocculation of Cephalin-Cholesterol Emulsions, J. Clin. Investigation **18**: 261, 1939.

22. Kennedy, W. P.: The Leukocyte Picture in Iraq, Tr. Roy. Soc. Trop. Med. & Hyg. **31**: 309, 1937.

importance in aiding diagnosis. The following points learned during the present investigation can be of great help in the diagnosis of Phlebotomus fever:

1. The disease may or may not be associated with a true leukopenia, but a pronounced relative and absolute reduction in the number of segmented neutrophils associated with a simultaneous definite relative and absolute increase in immature neutrophils (chiefly the staff cells) is a constant phenomenon (tables 2 and 3).

2. When leukocyte counts are done daily during the febrile and postfebrile periods a leukopenia, i. e. a reduction to below 5,000 cells per cubic millimeter from a higher normal level, may be expected in approximately 90 per cent of the cases.

TABLE 2.—*Changes in Leukocytes During the Course of Experimental Phlebotomus Fever Associated with the Development of Leukopenia*

C. SNA., white woman aged 41

	Period							
	Before Inoculation	Day of Fever			Day of Defervescence			
		1	2	3	2	4	6	9
Maximum temperature, degrees Fahrenheit	99.4	104.5	102.0	100.0	99.4	99.2	99.0	99.2
Total number of leukocytes	7,200	5,900	4,700	3,800	4,450	4,300	6,350	7,600
Differential—per cent								
Neutrophils, segmented	40	29	7	12	7	26	40	44
Immature: Band (staff)	10	49	43	26	34	27	18	13
Immature: Juveniles	..	2	..	1	2	3		
Immature: Myelocytes	..	..	..	..	..	1	2	
Lymphocytes	47	16	45	55	46	35	31	37
Monocytes	3	4	5	6	8	8	8	6
Eosinophils	..	..	..	..	3	..	1	
Basophils								

TABLE 3.—*Changes in Leukocytes During the Course of Experimental Phlebotomus Fever Without the Development of True Leukopenia*

C. AND., white man aged 39

	Period								
	Before Inoculation	Day of Fever			Day of Defervescence				
		1	2	3	1	2	3	4	6
Maximum temperature, degrees Fahrenheit	99.4	100.4	102.4	101.2	99.3	99.2	99.0	99.2	99.0
Total number of leukocytes	7,600	8,600	8,500	7,050	5,250	5,400	8,050	7,100	8,850
Differential—per cent									
Neutrophils, segmented	43	46	14	25	19	18	44	39	59
Immature: Band (staff)	7	34	51	57	38	39	22	22	14
Immature: Juveniles	..	4	6	2	3	1	1	2	
Immature: Myelocytes	..	..	..	..	..	..	1	1	
Lymphocytes	46	12	21	15	35	38	25	31	23
Monocytes	2	3	6	..	5	3	6	3	3
Eosinophils	1	1	1	..	..	1	1	1	
Basophils	1	..	1	1	..	..	..	1	1

3. A leukopenia is rarely encountered on the first day of the fever but is more often seen later, especially at the end of the fever and during the first two days of the postfebrile period (fig. 4).

4. The characteristic finding on the first day of the fever is a total count within normal limits, a relative and absolute decrease in the lymphocytes, and a relative and sometimes absolute increase in neutrophils which is due to an increase in immature cells. The total number of segmented neutrophils is usually not decreased at this time.

5. During the second or third days of the fever the number of lymphocytes begins to return to normal and for a few days thereafter may constitute 40 to 65 per cent of the total. At the same time the number of segmented neutrophils begins to drop and the immature cells increase to a point at which they usually outnumber the segmented cells.

6. Unless differentiation is made between the segmented and the immature cells (or filament and nonfilament cells) the significant changes in the neutrophils may be missed, since the total percentage of these cells may never be less than 50 to 60. A reduction in neutrophils to as low as 30 per cent, even when the total leukocyte count is less than 5,000, is not compatible with a diagnosis of Phlebotomus fever unless the immature cells make up a large proportion of all the neutrophils.

7. The changing relationships between the different types of cells at various stages of the disease shown in figures 5 and 6 are more important for diagnosis than any single observation. The normal picture usually returns five to eight days after defervescence. The dromedary type of curve for the immature cells is commonly found when daily counts are done. There appears to be a point, during the febrile or postfebrile periods, at which both the immature and the segmented neutrophils are decidedly depressed.

8. Degenerative changes, in the form of toxic granules and vacuolation of the cytoplasm, may be seen in the neutrophils, but they are not sufficiently constant or striking to be useful in diagnosis.

9. The monocytes are usually normal in number and appearance. In certain patients, however, they increase in number to constitute 16 to 40 per cent of all the leukocytes during the febrile and early postfebrile periods.

10. The eosinophils occasionally disappear during the course of the disease. An eosinophilia during convalescence was encountered only among those who had it before inoculation.

Erythrocyte Sedimentation Rate.—Although the number of determinations has not been large, it was found that the erythrocyte sedimentation rate may be unaffected in some even after several days of high fever, while in others a slight to moderate increase in sedimentation may occur.

Phosphatase and Hanger Cephalin-Cholesterol Flocculation Test for Hepatic Damage.—Serum phosphatase determinations on 5 subjects on the 1st, 3d, 4th or 5th days after onset of the fever yielded normal values, i. e. 2.1 to 5.4 Bodansky units per hundred cubic centimeters. The Hanger cephalin-cholesterol flocculation test was carried out with fresh serums obtained on the day of test (an important precaution) in 16 cases of the experimental disease. The serums tested were obtained on the 1st, 3d, 4th, 5th, 6th, 7th, 9th or 10th day after onset of fever. The twenty-four hour readings, which were considered most reliable, were negative. Plus-minus to 1 plus reactions at forty-eight hours were encountered in 6 of the patients and were not considered significant. Since the Hanger test has been found positive in malaria (therapeutic [23] and natural [24]) and in infective hepatitis,[21] the negative results obtained in Phlebotomus fever may on occasions be useful in differential diagnosis.

RECURRENCES

The fact that relapses or recurrences of the disease may occur with varying frequency during convalescence or later has been stressed by a number of careful clinical

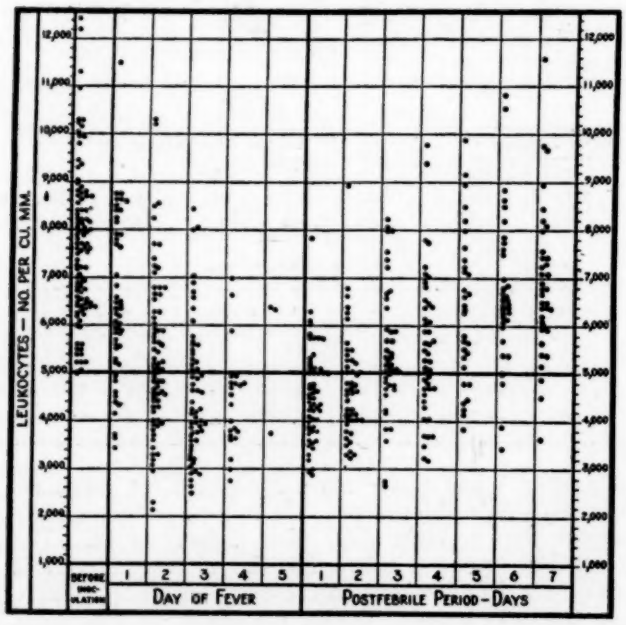

Fig. 4.—Leukocyte counts in 100 cases of experimental Phlebotomus fever.

observers.[25] Circumstantial evidence suggested that secondary infection resulting from further Phlebotomus bites need not be a factor, while premature return to strenuous physical activity was believed to favor a higher incidence of such recurrences.[26] During the present investigation at least 5 instances of multiple cycles of fever following a single inoculation of virus were detected among patients whose temperature was recorded for seven to eight days after defervescence

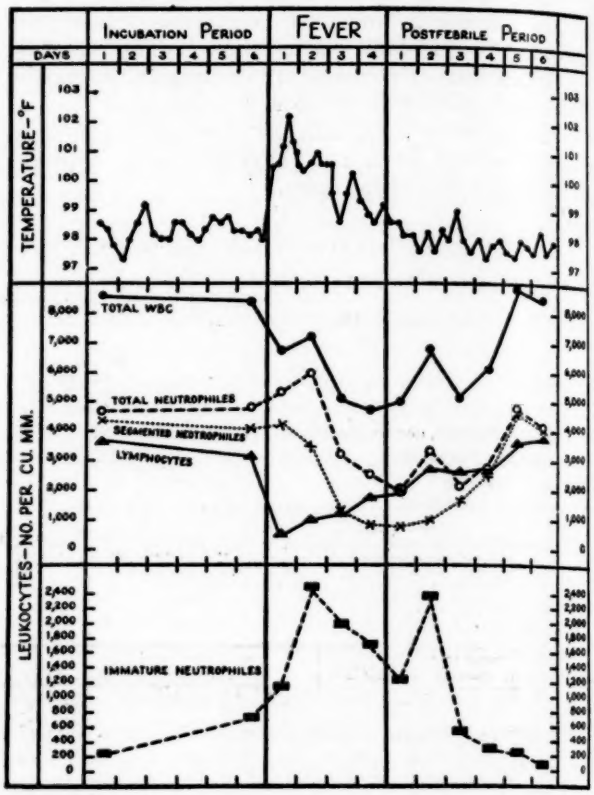

Fig. 5.—Experimental Phlebotomus fever in F. Gr., a Negro aged 50.

(fig. 7). A careful check of these patients revealed no other cause for the fever. It is noteworthy, however, that the characteristic changes in the leukocytes were not observed during the subsequent cycles of fever, even though 1 of the patients, Kne., had a low total count on two days. In patient Kal. the virus was demonstrated in the blood four days after inoculation during the first rise in temperature but not thirteen days after inoculation when his second cycle of fever began despite the fact that larger amounts were subinoculated into 2 susceptible subjects. An attempt to produce two cycles of fever by giving two inoculations of virus at an interval of three days yielded negative results in 5 subjects (fig. 2, subjects Ber., Dem., Rog., Ber. and Pri).

DIAGNOSIS

The following attempts were made to find a specific diagnostic test, but with negative results:

1. Precipitin reaction in which the antigen was either acute stage serum or an extract of presumably infected Phlebotomus papatasi and the antibody consisted of convalescent serums from natural or experimental cases.
2. Complement fixation reaction in which, in addition to the antigens tried in the precipitin test, allantoic fluid and yolk sac suspensions derived from inoculated embryonated eggs were also employed.
3. Skin test utilizing fresh and heated infectious serums.

In the search for a nonspecific reaction, tests for the capacity of acute and convalescent serums to agglutinate

23. Kopp, I., and Solomon, H. C.: Liver Function in Therapeutic Malaria, Am. J. M. Sc. **205**: 90, 1943; unpublished data from Third (New York University) Research Service, Goldwater Memorial Hospital, New York.
24. Mirsky, I. A.; von Brecht, R., and Williams, L. D.: Hepatic Dysfunction in Malaria, Science **99**: 20, 1944.
25. Doerr, Franz and Taussig.[1] Young, Richmond and Brendish.[33] Walker and Dods.[19]
26. Doerr, Franz and Taussig.[1] Birt.[19]

or hemolyze chicken or sheep erythrocytes and tests with human type O cells for cold agglutinins were carried out with negative results.

In the absence of a specific test for the individual case, the diagnosis of Phlebotomus fever must be made on clinical and epidemiologic grounds. The occurrence in a number of individuals of a clinical syndrome together with changes in the leukocytes of the type described, during the summer or autumn months in a country known to harbor Phlebotomus flies, may reasonably warrant the diagnosis of an outbreak of Phlebotomus fever. Dengue, which is perhaps more closely related to Phlebotomus fever than any other disease, usually has to be considered in the differential diagnosis of an epidemic in those localities in which both fevers may occur. The following differences observed in the experimentally reproduced diseases may be useful in the differential diagnosis of epidemics of the two fevers:

1. In Phlebotomus fever more than 80 per cent of the cases are made up of two, three and four day fevers, while in dengue approximately 80 per cent of the cases exhibit five, six or seven day fevers.

2. Lymphadenopathy is common in dengue, uncommon or absent in Phlebotomus fever.

3. While certain cases of dengue may not exhibit a rash, it is nevertheless common in dengue and exceptional in Phlebotomus fever. The diagnosis of a dengue epidemic in which rash is uncommon is not acceptable without experimental proof of the identity of the virus.

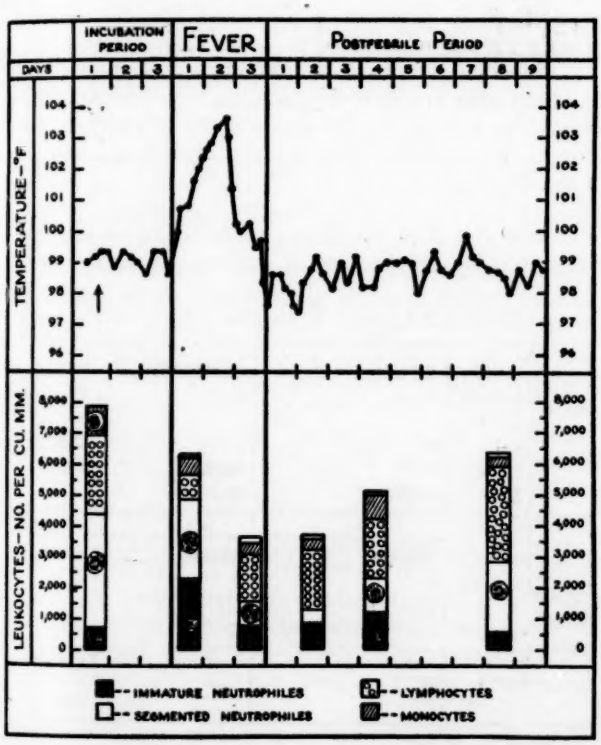

Fig. 6.—Experimental Phlebotomus fever in R. El., a white youth aged 18.

The question of whether an outbreak of a febrile disease among American troops was dengue or Phlebotomus fever came up in Sicily, especially because it occurred at a time when the vectors of both diseases were prevalent and occasional cases with ill defined rashes were observed. An investigation of this outbreak revealed that the clinical manifestations were compatible with those of experimental Phlebotomus fever, and the virus isolated from the blood of those patients was established as one of Phlebotomus fever on the following grounds:

(*a*) The experimental disease in human beings was identical with that produced by Phlebotomus transmitted virus.

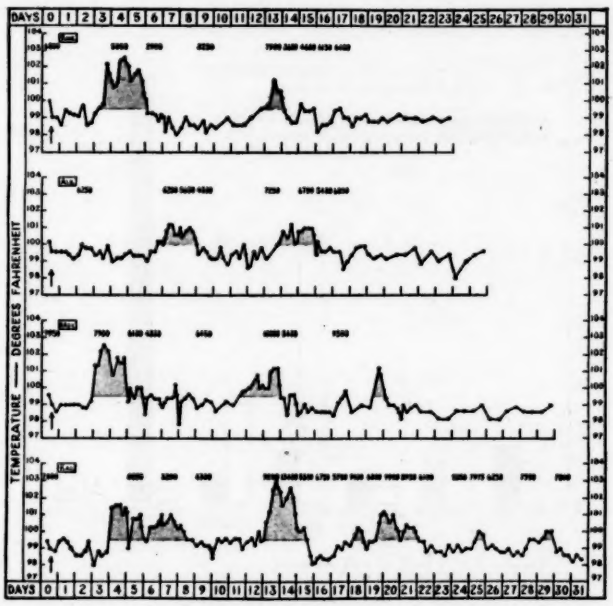

Fig. 7.—Multiple cycles of fever after a single injection of Phlebotomus fever virus in human beings.

(*b*) Aedes aegypti mosquitoes were unable to transmit the disease from one human being to another.

(*c*) Complete cross immunity was demonstrated between the Sicilian virus and the Middle East Phlebotomus transmitted strain in tests on human beings recovered from infection with one or the other virus.

Influenza epidemics rarely if ever occur during the hot summer months. In individual cases the differential diagnosis between Phlebotomus fever and pharyngitis with fever, so-called grip, and gastroenteritis should be facilitated by suitable leukocyte counts and Schilling differentials. One of us (A. B. S.) has studied the leukocyte picture in a number of cases of pharyngitis or tonsillitis with fever and so-called grip consisting of one or two day fevers without obvious respiratory involvement, at intervals during the febrile and postfebrile periods, and found that differentiation from Phlebotomus fever was possible in every case; the total leukocyte counts either remained within normal limits or were increased, and although an increase in the number of immature neutrophils frequently occurred it was never accompanied by the pronounced reduction in the number of segmented (filament) cells which is the characteristic change during the later stages of Phlebotomus fever. In certain outbreaks of infectious hepatitis individual cases may be erroneously diagnosed as Phlebotomus fever during the febrile, preicteric stage. Not enough is known about Schilling differential counts during the preicteric phase of infectious hepatitis to indicate whether or not differentiation may be possible by this method; however, the Hanger cephalin-cholesterol flocculation test may be tried, although it is not yet known how frequently it is positive in the preicteric stage.

In localities where malaria and Phlebotomus fever occur simultaneously and when, because of the pressure of events, antimalarial therapy may be administered

in the absence of a positive smear or characteristic history, many cases of Phlebotomus fever are erroneously diagnosed as malaria (Birt [19] and personal observations). The influence of greater familiarity with the disease and of the withholding of antimalarial therapy until the diagnosis was established by positive smear

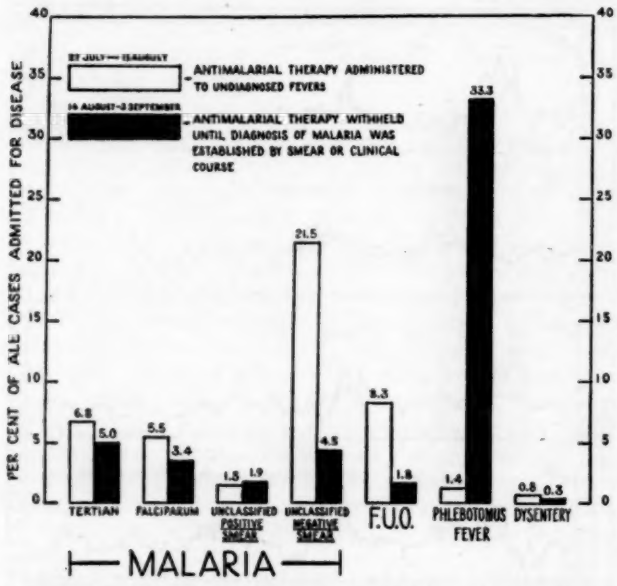

Fig. 8.—Diagnosis of Phlebotomus (pappataci) fever in an evacuation hospital in Sicily. Influence of different use of antimalarial therapy and of increased familiarity with the disease on the incidence of diagnosis.

or clinical course on the incidence of the diagnosis of Phlebotomus fever in an evacuation hospital in Sicily is illustrated in figure 8. The change in the number diagnosed as Phlebotomus fever from 1.4 per cent to 33⅓ per cent of all cases admitted for disease may be seen to be derived largely from the fevers diagnosed as unclassified, negative smear, malaria or fever of unknown origin.

IMMUNITY

In view of the fact that multiple attacks during the same season or in subsequent seasons are so frequently claimed, there are those who doubt that a single attack of the disease produces any appreciable immunity. It is a common experience, however, that groups which have sustained epidemics of Phlebotomus fever and which remain in infected areas are immune during subsequent seasons at a time when fresh groups, newly arrived in the area, are being infected. Our own investigations yielded the following information:

1. Nineteen subjects inoculated a second time with virus of proved potency at intervals of seventeen days to four months after the first experimental attack of the disease were all immune (1 tested at seventeen days, 8 at four and six weeks, 10 at four months).

2. Two physicians [27] residing in the United States, who gave a history of two natural attacks of the disease while in Palestine four to seven years before, were given an inoculation of the Middle East strain of the virus simultaneously with some of the aforementioned subjects. One of them developed a typical case of average severity, while the other had a mild abortive attack lasting only a few hours.

3. Complete cross immunity between the Middle East and Sicilian strains of the virus was demonstrated in tests carried out six weeks and four months after the initial attack.

4. People recovering from so-called grip or fevers associated with inflammation of the respiratory tract were not resistant to inoculation with Phlebotomus fever virus in subsequent weeks.

5. Thus far tests for neutralizing antibody have been irregular. It is possible that such antibody exists only in small amounts, and further studies are necessary before an unequivocal statement can be made.

Our attempts to produce immunity without giving rise to the disease yielded the following results:

1. Persons inoculated intracutaneously or intravenously with amounts of virus too small to produce the disease were with one possible exception susceptible to reinoculation.

2. Persons who failed to develop the disease after subcutaneous or intramuscular inoculation with amounts of virus that are infective by the intracutaneous route were immune on reinoculation.

3. Although reproducible results have not yet been obtained on the inactivation of the virus by ultraviolet light, all of 11 persons who had failed to develop the disease following intracutaneous injection of virus irradiated with ultraviolet light were found to be immune on reinoculation with virus of proved potency.

PROPHYLAXIS

Although a good deal more remains to be learned about the bionomics of Phlebotomus papatasi, certain steps may reasonably be taken against these insects in an attempt to prevent outbreaks of the disease or to modify their course once they have developed:

1. Sleeping quarters should be on as high ground as practicable, on open, dry, sandy ground when feasible, and as far away from the native dwellings and domestic animals as possible. The more breeze in a given location the better.

2. Whenever possible the area occupied by sleeping quarters and that within a radius of 50 to 100 yards around it should be free of rubble, detritus, gardens,

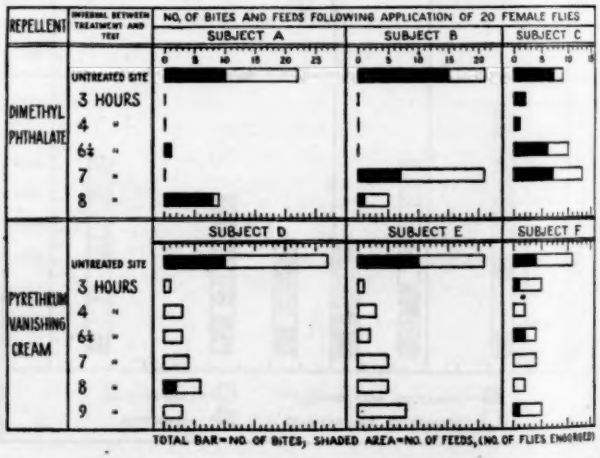

Fig. 9.—Protective effect of two repellents against Phlebotomus papatasi.

vegetation and needless earthen walls or banks. The ground surfaces in such an area should be leveled and rendered as impermeable as practicable by filling in and stamping down cracks in the earth or by tarring or cementing, especially in permanent installations. Whenever that is not practical or impossible it may be worth while to attempt to render the ground unsuitable for breeding by oiling with waste motor oil or crude

27. Drs. Helen Glueck and Irving Dunsky of Cincinnati volunteered for these tests.

oil or by application of creosote; sandbag walls and embankments should receive the same treatment.

3. Inside the sleeping quarters it is advisable to (*a*) eliminate cracks and crevices in the walls or, when that is not feasible, spray them with cresol or other available insecticide, (*b*) reduce all fixtures to a minimum, (*c*) keep bed, kits and clothing away from walls where the insects usually seek protection during the daytime, (*d*) use the pyrethrum bomb spray, (*e*) utilize electric fans to best advantage whenever available and (*f*) use sleeping nets of fine enough mesh (more than 45 to the inch) whenever that does not interfere with sleep.

The effectiveness of two repellents which may be applied to the exposed skin surfaces was investigated in collaboration with Drs. S. Adler and S. Arkin of the Hebrew University in Palestine. Some of the data shown in figure 9 indicate that both dimethyl phthalate and a pyrethrum vanishing cream were capable of affording considerable protection to a treated skin site for six to seven hours or longer. Tests carried out in sleeping rooms in which 150 to 200 female Phlebotomus papatasi flies were released indicated that both of these repellents, properly applied to all exposed surfaces, were effective during an eight hour period of sleep. Dimethyl phthalate was tested by two of us (J. R. P. and C. B. P.) during a small outbreak of Phlebotomus fever in the Middle East, and none of those who used it regularly at night during a five week experimental period acquired the disease. A sufficient number of those who used either nothing or a control inactive solution developed the disease in the same barracks during the same period to render the results statistically significant.

SUMMARY

1. Phlebotomus (pappataci or sandfly) fever is a disease of military importance because it occurs in many parts of the world where troops are stationed and because it can incapacitate large numbers of persons at a time for seven to fourteen days.

2. It occurs during the hot, dry seasons and is characterized in most instances by a fever of two, three or four days' duration, severe frontal headache, pain in the eyes, which are tender to touch and on movement, photophobia, pain in the back and extremities associated with characteristic changes in the leukocytes.

3. It is caused by a filtrable virus which is present in the blood for at least twenty-four hours before and after the onset of fever but is no longer detectable forty to forty-eight hours thereafter.

4. The virus is of small size (probably in the same range of magnitude as that of yellow fever) and, while it is readily transmissible to human beings, it has not yet been found to be infectious for any of a large variety of animals which have been tested. The virus has been preserved for at least six months in the frozen or lyophilized states.

5. The only proved vector of the disease is a small, hairy, two winged midge, Phlebotomus papatasi. Aedes aegypti and Culex pipiens mosquitoes and human fleas Pulex irritans did not transmit the disease from one human being to another in a number of tests.

6. People recovering from an experimental attack of the disease were immune to reinoculation for at least four months thereafter.

7. Two strains of virus, one isolated in the Middle East and the other in Sicily, were proved to be immunologically identical.

8. Virus irradiated by ultraviolet light has been found capable of producing immunity without giving rise to the disease.

9. Dimethyl phthalate and a pyrethrum containing vanishing cream applied to the exposed skin surfaces were both found to be effective repellents for Phlebotomus papatasi.

STUDIES OF BLOOD PRESSURE IN ARMY OFFICERS

OBSERVATIONS BASED ON AN ANALYSIS OF THE MEDICAL RECORDS OF 22,741 OFFICERS OF THE UNITED STATES ARMY

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During the past two years large numbers of men have been examined, under the auspices of the Selective Service System, to determine their fitness for active military duty. A recent study [1] has shown that about one fourth of those rejected for cardiovascular reasons were disqualified because of hypertension. The range of the normal blood pressure, both systolic and diastolic, is still not clearly defined; and critical levels, above which it is unsafe or unwise to accept a registrant, have not been established on a sound, factual basis. Transient, "emotional" elevations of blood pressure have been recognized but discounted by the Army. In Mobilization Regulations 1-9, issued by the War Department on Oct. 15, 1942, it is stated that, "if the blood pressure appears to be abnormally high, it will be measured after the subject has rested in the recumbent position." A cause for rejection is "a persistent blood pressure at rest above 150 mm. systolic or above 90 diastolic, unless in the opinion of the medical examiner the increased blood pressure is due to psychic reaction and not secondary to renal or other systemic disease."

At a meeting of the Subcommittee on Cardiovascular Diseases of the National Research Council, held in Washington in June 1942 and attended by representatives of the Army, the Navy, the Public Health Service, the Selective Service System and the Veterans Administration, the advisability of modifying certain of the existing criteria of physical fitness was considered. The urgent need for manpower made it imperative to recruit all eligibles who could serve with safety to them-

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This is the first in a series of papers reporting these studies.

Drs. Levy, Stroud and White are members of the Subcommittee on Cardiovascular Diseases, National Research Council.

The work described in this paper was done under a contract, recommended by the Committee on Medical Research, between the Office of Scientific Research and Development and Columbia University.

Major Robert S. Gearhart, Medical Corps, United States Army, aided in guiding the work of the secretaries who transcribed the data from the original records to the special statistical forms. Miss Dorothy Kurtz, Supervisor of the Record Department of the Presbyterian Hospital, New York, directed the statistical analyses and helped in the preparation of the tables. Dr. John W. Fertig, Professor of Biostatistics, Columbia University College of Physicians and Surgeons, served as adviser in the final presentation of the material.

1. Levy, R. L.; Stroud, W. D., and White, P. D.: Report of Reexamination of 4,994 Men Disqualified for General Military Service Because of the Diagnosis of Cardiovascular Defects, J. A. M. A. **123**: 937 (Dec. 11), 1029 (Dec. 18) 1943.

selves and with advantage to the armed forces. With respect to the upper limits of blood pressure, it was suggested by some that these might be raised, whereas others claimed that the existing levels were too high. As a result of the discussion, it became clear that a change in either direction was not justified on the basis of the evidence at hand; for there was no large series of observations carried out over long periods of time.[2] To obtain the lacking information as quickly as possible seemed highly desirable.[3]

It was known that, in the Office of the Surgeon General of the Army, there were filed abstracts of the medical records of some 23,000 officers, on which were noted the results of annual physical examinations made between January 1924 and December 1941. Appended to many of these were the detailed reports of special examining boards, submitted on the occasion of promotion or retirement or of examination incident to hospitalization. Often electrocardiograms and teleroentgenograms were made at such times, and other laboratory procedures were employed. In many cases the record began with the admission of the young man, as a cadet, to West Point. Annual examinations were discontinued in 1941 owing to the pressure of work essential to the war. No examinations were made after an officer had retired unless he applied for reinstatement for active duty. Samples of these records were inspected, and it was at once apparent that here was a valuable storehouse of material.

To supplement the histories in the Surgeon General's Office, Col. Albert G. Love, Medical Corps, United States Army, kindly offered to place at our disposal his notes on the medical records of 5,000 officers who were in the service on Jan. 1, 1901 and also those commissioned between that time and Dec. 31, 1916. These had been analyzed, in collaboration with Professor Lowell J. Reed of the Johns Hopkins University, and the results published in 1931 and 1932 in a series of papers dealing with "Biometric Studies on U. S. Army Officers." It seemed probable that the use of these earlier notes, particularly those pertaining to blood pressure, might lengthen the period of observation in some of the cases included in the larger series. Reference to the conclusions of Reed and Love will be made in appropriate places.

The availability of this material appeared to offer an unusual opportunity to study variations of blood pressure during the passage of a number of years and to relate them to various other factors. Of particular immediate importance was the significance of transient hypertension. Additional topics for consideration which at once came to mind were the later course of those who developed sustained hypertension, the relationship between body weight and hypertension, and the significance of tachycardia, both transient and sustained. These could all be correlated with disability retirement and mortality rates at various ages, with the causes of retirement and death and, in those who died, with the findings at necropsy.

It was realized that the type of subjects studied imposed certain limitations on the universal applicability of the results of the analysis. All were men, they represented a group originally selected because they were physically qualified according to certain rigid standards, and they lived under the special conditions of military service, both at home and in the field. However, it should be stressed that the primary aim of this investigation was to obtain information useful to the Army; of secondary importance, though of equal interest, was the desire to contribute to the general knowledge of the problems involved.

TABLE 1.—*Status at Time of Study*

	Number	Per Cent
Total cases	22,741	100
On active duty	15,998	70.3
Retired but still living—total	4,003	17.6
Retired for disability	1,994	8.8
Died—total	2,292	10.1
After retirement for disability	650	2.9
Autopsy reported	639	2.8
Status unknown—left service	448	2.0

TABLE 2.—*Age Distribution at First Examination*

	Number	Per Cent
Total cases	22,741	100
Under 25 years	8,252	36.3
25 to 29 years	4,613	20.3
30 to 34 years	3,846	16.9
35 to 39 years	2,208	9.7
40 to 44 years	1,857	8.2
45 to 49 years	1,281	5.6
50 to 54 years	684	3.0

PLAN OF PROCEDURE

On Sept. 12, 1942 a contract, recommended by the Committee on Medical Research, was made between the Office of Scientific Research and Development and Columbia University, providing funds for this study. Dr. Levy was appointed chairman of the project.

A statistical form was devised for recording the necessary data. Ten secretaries with special qualifications for the task were chosen and installed in a room in the Office of the Surgeon General. It was necessary that the clerical work be carried out there, since the records were in daily use. The information contained in each officer's medical folder was transcribed by the secretaries to a statistical sheet. Each clerk was given a typed set of directions containing definitions of the terms employed and criteria for the diagnoses. These criteria will be cited where they apply to the topics under discussion.

The completed forms were shipped to the Record Room of the Presbyterian Hospital in New York, where the data were transferred to punch cards. The final statistical analyses were then made by machine.

GENERAL ANALYSIS OF MATERIAL

A total of 22,741 records proved to be suitable for study. In 1,821 of these supplemental information was obtained from Colonel Love's notes made prior to 1924. In some instances the final status of an officer was learned by reference to the 1943 edition of the Official Army Register. Original necropsy protocols were reviewed at the Army Medical Museum through the courtesy of Col. J. E. Ash, its director.

Status at Time of Study (table 1).—Of the total number of 22,741 men, 70 per cent were on active duty when the data were assembled, 17 per cent were

2. Statistics of life insurance companies are based largely on mortality experience following a single blood pressure reading and apply only in limited fashion to certain aspects of the present analysis.

3. A tentative plan of study was submitted at the meeting by Dr. E. V. Allen, member of the Subcommittee on Cardiovascular Diseases, National Research Council, and Dr. E. A. Hines Jr. of the Mayo Clinic. This was modified materially with respect to both scope and procedure as the project matured.

retired and still living and 10 per cent were dead. Of the 2,292 who had died, an autopsy report was available in 639 (28 per cent). In only 2 per cent of the total number (448 cases) was the status unknown because the officer had left the service and could not be traced.

Age Distribution at First Examination (table 2).—The largest number of men, 8,252, or 36 per cent, were under 25 years of age and the numbers decreased progressively in the succeeding five year periods. Fifty-six per cent were under 30 years of age and 73 per cent were under 35 when first examined.

Length of Service at First Examination (table 3).—It has been customary for the War Department to file all reports of physical examination of officers in the Adjutant General's Office with other personnel records. In order to have this medical information more readily available for current use, the practice was begun in 1924 of transcribing essential data to cards filed in the Surgeon General's Office. The present series of studies is based largely on the data found on these cards. Since it has been impracticable for the Surgeon General's Office to review and abstract all officers' personnel records in the War Department, the records of officers already in the service in 1924 are incomplete. In 41 per cent of the total number of cases there was a report of medical examination during the first year of service. In 27 per cent the officer's physical condition was first recorded after he had been in the Army from five to nine years, and in 5 per cent no record was available until after twenty to twenty-four years of service.

Length of Observation Period (table 4).—A small number, 821, or 4 per cent of the total, were given only a single examination. Seventy-two per cent were under observation from five to nineteen years, and 38 per cent (8,671) were observed from fifteen to nineteen years. In 1,437 cases, or 6 per cent of the total, the observation period was twenty years or over.

TABLE 3.—*Length of Service at First Examination*

	Number	Per Cent
Total cases	22,741	100
Under 1 year	9,282	40.8
1 to 2 years	1,169	5.2
3 to 4 years	1,189	5.2
5 to 9 years	6,119	26.9
10 to 14 years	1,559	6.9
15 to 19 years	1,533	6.7
20 to 24 years	1,140	5.0
25 to 29 years	597	2.6
30 to 34 years	107	0.5
35 to 39 years	40	0.2
40 years or over	6	0.0

TABLE 4.—*Length of Observation Period*

	Number	Per Cent
Total cases	22,741	100
None—single examination	821	3.6
Under 1 year	278	1.2
1 to 2 years	1,161	5.1
3 to 4 years	2,644	11.6
5 to 9 years	3,825	16.8
10 to 14 years	3,904	17.2
15 to 19 years	8,671	38.2
20 to 24 years	1,023	4.5
25 years or over	414	1.8

Distribution by Branch of Service (table 5).—Of the total number, 11 per cent (2,465) were transferred from one service to another during the period of observation, so that they were listed under more than one branch. The sum of the percentages, therefore, exceeds 100. However, the general distribution trend is evident.

Twenty-nine per cent were in the infantry, 13 per cent were in the air corps, 12 per cent were in the field artillery and 11 per cent were in the medical corps.

TABLE 5.—*Distribution by Branch of Service*

	Number	Per Cent
Total cases	22,741	100
Transfers from one branch to another	2,465	10.8
Infantry	6,736	29.6
Air Corps	2,967	13.1
Field Artillery	2,782	12.2
Medical Corps	2,463	10.8
Coast Artillery	2,120	9.3
Cavalry	1,808	8.0
Quartermaster Corps	1,372	6.0
Engineers	1,227	5.4
Sedentary work	625	2.7
Finance Department	211	0.9
Inspector General's Office	72	0.8
Judge Advocate General's Office	174	0.7
Adjutant General's Office	168	0.3
Signal Corps	551	2.4
Ordnance	431	1.9
Chemical Warfare	138	1.0
Chaplains	219	0.6
Tank Corps	18	0.1
Not specified	1,749	7.7

TABLE 6.—*Rank at First Examination*

	Number	Per Cent
Total cases	22,741	100
Warrant officer	1,734	7.6
West Point cadet	4,684	20.6
Second lieutenant	5,368	23.6
First lieutenant	4,306	18.9
Captain	4,111	18.1
Major	1,654	7.3
Lieutenant colonel	574	2.5
Colonel	244	1.1
Brigadier general	43	0.2
Major general	21	0.1
Lieutenant general	..	...
Not specified	2	0.0

The coast artillery, cavalry and quartermaster corps followed in this order. There were only 5 per cent in the engineers. Those whose work was of a sedentary character have been grouped together; they comprised less than 3 per cent of the total. In 8 per cent the branch of service was not specified.

Rank at First Examination (table 6).—As might have been anticipated, the largest number, 5,368, or 24 per cent, were second lieutenants when first examined. Next in order were West Point cadets 20 per cent, first lieutenants 19 per cent and captains 18 per cent. Seven per cent were warrant officers and 7 per cent were majors. Comparatively few, only 4 per cent, received their first examination as lieutenant colonels or when they had attained higher rank.

COMMENT

There is need for studies of blood pressure in persons observed over long periods of time. The reports of annual medical examinations of army officers afford suitable material, although it is recognized that they concern a selected group of male subjects. An analysis of 22,741 of these records has been undertaken. The purposes of the study, sources of the records, plan of procedure and a general survey of the material have been given; in subsequent papers various aspects of the work will be discussed in detail.

METHYL BROMIDE POISONING

WITH SPECIAL REFERENCE TO NERVOUS SYSTEM MANIFESTATIONS

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Methyl bromide has been used extensively during recent years, first as a refrigerant, later as a fumigant and recently as a delousing agent. It is an insecticide of great effectiveness and wide application and is capable of protecting a wide variety of foods, shrubs, plants, grains and textiles. Its use is recommended by entomologists in the solving of insect control problems for many reasons: It leaves no residual odor or taste; it is convenient to handle and its fumes do not constitute a fire or explosion hazard when mixed with air under ordinary conditions of use; it is highly toxic to insects in all stages of development; it has a low absorption and high penetrating power; it is low in cost. There is increased interest in the use of methyl bromide at the present time as it has been found to be very effective in the extermination of lice and bedbugs, and it is being used for this purpose in the armed forces. The War Production Board has recently announced that it has been placed under allocation.[1]

Methyl bromide (CH_3Br) is a colorless, odorless gas at ordinary temperatures and pressures. It has a specific gravity of 1.732 at 0 C., a molecular weight of 94.94, a melting point of —93 C. and a boiling point of 4.5 C. At ordinary temperatures it is approximately 3.3 times as heavy as air. It is soluble in most common organic solvents but is only slightly soluble in water. It has high chemical stability. In manufacturing it is compressed and put into containers as a liquid and can be withdrawn as a liquid which immediately vaporizes. It is known to be toxic to human beings if its vapors are inhaled, and the Division of Industrial Hygiene, National Institute of Health, United States Public Health Service, has advised the following precautionary measures: avoidance of breathing the gas; thorough ventilation of cars, rooms or buildings on completion of fumigation; the use of a gas mask or positive pressure hose when exposure is necessary; avoidance of spillage with removal of clothing that has become impregnated; care in storage. Manufacturers are also aware of the toxicity of methyl bromide, and care is used in the preparation and utilization of the substance.

The toxic effects of methyl bromide are well known. In experimental animals it has been found to be the most toxic, both in high concentration and short exposure, and in low concentration and long exposure, of four organic halides—methyl bromide, methyl chloride, ethyl bromide and ethyl chloride.[2] Irish, Adams, Spencer and Rowe[3] found that warm blooded animals can survive fairly high concentrations for brief periods of time, but longer exposure leads to pulmonary irritation with congestion and edema, often developing into typical confluent bronchopneumonia. Lower concentrations with prolonged exposure result in excitability, muscular tremors and even paralysis, from which the animals can recover completely when removed from the gas. Sayers, Yant, Thomas and Berger[2] found that animals exposed to methyl bromide developed respiratory difficulty, irritability, unsteadiness, excitement and convulsions. Pathologically these animals showed degeneration of the heart muscle, congestion and hemorrhage of the lungs, and congestion of the kidneys, spleen and liver. The brain and meninges also were congested. These changes were more apparent after long exposure to low concentrations than after brief exposure to high concentrations.

While there is little information regarding the level of response to methyl bromide vapor in human beings, it is known from animal experiments that care must be used in handling the substance.[3] Cases of methyl bromide poisoning in human beings have been reported, some with fatal termination, but most reports are from the foreign literature and the conditions of exposure are not adequately described. The paucity of reports of methyl bromide intoxication in this country may be due to the precautions used in manufacturing and dispensing it, although in the past the substance has not been in as great use in this country as in Europe. Jaquet[4] in 1901 reported 1 case with vertigo, weakness and temporary visual disturbances following a brief exposure, and 2 cases with similar symptoms plus asthenia and psychic disturbances following longer exposure. Steiger[5] in 1918 reported 1 case with delayed nervous system symptoms. A case with prostration and apathy with a history of repeated poisonings was reported by Cade and Mazel[6] in 1923 and a fatal case by Glaser[7] in 1928. In all some 42 cases have been reported, of which 12 proved fatal, 23 were reported as recovered, and in 7 the information is incomplete.[8] Symptoms referable to the nervous system appear to be typical for methyl bromide poisoning. They vary from individual to individual but are manifest as headache, vertigo, pareses or paralyses, visual disturbances, delirium, psychic disturbances and even convulsions and coma. There may be some individual predisposition. Acute poisoning usually results in pulmonary irritation leading to bronchial pneumonia. Watrous[9] in 1942 made a study of 90 persons who worked with methyl bromide in a filling and sealing room during a two weeks period. Here the concentration of the vapor was less than 35 parts per million of air, a concentration well in the range that is considered to be "safe." He found localized and mild systemic toxic effects in 31 persons. Anorexia, nausea and vomiting were seen most frequently, then headache, vertigo, difficulty in focusing the eyes, lethargy, gastrointestinal symptoms, muscular pains, faintness and dimness of vision. He also noticed a characteristic vesicular burn, resembling a second degree burn, that occurred when liquid methyl bromide came in direct contact with the skin, and a late itching dermatitis that resulted from contact.

From the Department of Neurology, the University of Michigan Medical School and University Hospital.

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7. Glaser, E.: Zur Kenntnis der gewerblichen Brommethylvergiftungen, Deutsche Ztschr. f. d. ges. gerichtl. Med. **12**: 470 (Oct. 30) 1928.
8. von Oettingen, W. F.: The Halogenated Hydrocarbons: Their Toxicity and Potential Dangers, J. Indust. Hyg. & Toxicol. **19**: 349 (Oct.) 1937. Irish, Adams, Spencer and Rowe.[3]
9. Watrous, R. M.: Methyl Bromide: Local and Mild Systemic Toxic Effects, Indust. Med. **11**: 575 (Dec.) 1942.

Methyl bromide is less toxic than some fumigants and insecticides, but it does present a definite toxic hazard, especially as it does possess sufficient warning properties to prevent serious voluntary exposure. Careful precautions are used in its manufacture, storage and use in this country. The following 2 case reports indicate, however, that complications may arise even when such precautions are used:

REPORT OF CASES

CASE 1.—*History.*—R. L. E., a youth aged 17, complained of dizziness and of numbness and stiffness of the feet and legs. He had worked as a "canner" of methyl bromide for six months before onset of his present symptoms. The gas was liquefied at —22 F. (—30 C.) and put into cans. Scattered gas was removed by a suction flow. It was stated that he had worked longer as a canner than any other employee and had lost 20 pounds (9 Kg.) during this time. He gave a history of having received numerous methyl bromide blisters on his hands. In November 1943 he began to notice mild vertigo and unsteadiness of vision (oscillopsia), which were more or less constant but not severe enough to incapacitate him for his work. About ten days later he noticed numbness and tingling of the soles of the feet, which later ascended the legs as far as the groin. With the paresthesias he noted some stiffness and weakness of the lower extremities, with disability in walking and running. There were no difficulties with the use of the upper extremities. The vertigo disappeared after about three weeks, but the paresthesias and stiffness of the legs persisted. The patient was put to bed the latter part of November, about three weeks after the onset of the symptoms, because he had developed a tachycardia. This improved with rest and the weakness of the legs became less, although the paresthesias persisted.

Examination.—The patient was a slender young man of fair physical development. The temperature, pulse and respirations were normal, and blood pressure was 104/80. He was intelligent and cooperative. There was a slight swaying in his gait, and the Romberg sign was present. The pupils were moderately dilated but reacted normally. The extraocular movements and the optic fundi were normal. There was nystagmus on lateral gaze. The biceps and triceps reflexes were active and equal. There was no Hoffman's sign. There was a moderate amount of dysdiadokokinesia bilaterally, and there was slight intention tremor on the finger to nose test. The abdominal and cremasteric reflexes were active. The patellar and achilles reflexes were exaggerated. There were abortive ankle clonus and a positive Babinski sign bilaterally. There was mild ataxia on the heel-to-knee-to-toe test bilaterally. Vibratory sense was slightly diminished in the lower extremities. Position and cutaneous sensations were normal, and there was no astereognosis. Examination of the blood showed the hemoglobin to be 97 per cent, red blood cells 4,800,000 per cubic millimeter, white blood cells 17,250 per cubic millimeter, with 84 per cent polymorphonuclear cells, 9 per cent large lymphocytes and 7 per cent small lymphocytes. The platelets were normal in number. The white blood cells showed a moderate toxic granulation, but no abnormal cells were seen. The blood bromide determination was 13 mg. of sodium bromide per hundred cubic centimeters. The Kahn reaction on the blood was negative. Spinal puncture showed a pressure of 150 mm. of water without block. The Kahn reaction and the colloidal gold and mastic curves were entirely negative. There were no cells. The total protein was 22 mg. per hundred cubic centimeters.

Course.—The patient was treated symptomatically and was advised against returning to his previous employment. One month later he reported progressive improvement with gain in appetite and weight and disappearance of staggering and numbness. He still noted pronounced ease of fatigue.

CASE 2.—*History.*—I. S., a man aged 26, complained of weakness of the legs and difficulty in walking. He had been employed for several months in the distilling of methyl bromide. Three weeks before admission, after working for about four hours at his machine, he became weak and dizzy. He was taken to the first aid department, where he stayed all night, and he had some nausea and vomiting during the night. He returned to his work two days later and at this time again became dizzy and weak and noticed unsteadiness and double vision. There was also numbness and tingling of the legs and arms, which was followed by extreme weakness; his gait became ataxic and he dropped objects from his hands without realizing it. The weakness of the arms disappeared within a few days, but the weakness of the legs persisted. The patient was forced to stop his work two weeks later because of difficulty in walking. He had noticed drowsiness, a decided loss of appetite and loss of 15 pounds (7 Kg.) in weight in one month. A few days after the development of the patient's symptoms a leak was said to have been discovered in the apparatus with which he was working.

Examination.—The patient was well developed and did not appear to be acutely ill. He responded slowly to questioning. Temperature, pulse and respirations were normal; blood pressure was 114/70. His gait was weak and unsteady, and he walked with a wide base, took short steps, and his feet slapped the floor in walking. He was unable to walk tandem. The Romberg sign was present. The pupils were moderately dilated. The extraocular movements and the optic fundi were normal. There was nystagmus on extremes of lateral gaze. The biceps and triceps reflexes were normal. There was slight incoordination and intention tremor in the upper extremities. The abdominal and cremasteric reflexes were normal. The patellar reflexes were exaggerated, but the achilles reflexes were diminished. Vibratory sense was diminished at the ankles. Position sense was normal. Cutaneous sensations were diminished in both lower extremities, with a stocking distribution extending to the knees. Deep pain sensation was present. There was no astereognosis. Laboratory tests showed a negative Kahn reaction on the blood. The skull roentgenogram was negative. Blood bromide determination was 9 mg. of sodium bromide per hundred cubic centimeters. Spinal puncture showed normal pressure without block; there were 3 cells per cubic millimeter; the Kahn, colloidal gold and mastic tests were negative, and the total protein was 48 mg. per hundred cubic centimeters. Urinalysis was normal. Blood count showed a hemoglobin of 90 per cent, red blood cells 4,700,000 per cubic millimeter and white blood cells 9,000 per cubic millimeter, with 63 per cent polymorphonuclear cells, 30 per cent lymphocytes, 5 per cent monocytes and 2 per cent eosinophils. A psychometric determination awarded the patient an intelligence quotient of 85, placing him in the low average group.

Course.—The patient's symptoms improved progressively during a two weeks period of hospitalization. His gait improved, and he complained less of the paresthesias and of the weakness. Two months later he still noted some weakness and paresthesias, however, with some residual blurring of vision. He had returned to his work two weeks after discharge from the hospital but had frequently lost time from work because of his symptoms.

CASE 3.—As this report goes to press, a third patient with nervous system manifestations resulting from methyl bromide intoxication has been observed. This man, aged 43, an assistant operator in the manufacture of methyl bromide since Nov. 7, 1943, noticed the onset of tinnitus about Jan. 15, 1944. This was followed by weakness and numbness of the legs, staggering gait, vertigo and headaches. A few days later he noted weakness of the left arm and leg, blurring of vision and lethargy. He was forced to stop his work on January 22. Beginning the middle of February he noted some improvement, although the drowsiness was followed by insomnia and he had had one attack of nausea and vomiting. When examined on May 5, 1944 he showed anisocoria, an ataxic gait, exaggerated tendon reflexes especially on the left, abortive ankle clonus, and diminished vibratory sensibility in the lower extremities.

SUMMARY

Methyl bromide is a toxic substance, and nervous system or other complications may arise from exposure to it. Recent allocation of methyl bromide by the War Production Board for use in the armed forces merits extreme care in its disposition and utilization. While it can be handled without injury if used intelligently, its toxic potentialities must be borne in mind, and its indiscriminate and careless use must be avoided.

PRODUCTION OF POTENT INACTIVATED VACCINES WITH ULTRAVIOLET IRRADIATION

III. AN ABBREVIATED PRELIMINARY REPORT ON A COMPLETELY INACTIVATED POLIOMYELITIS VACCINE (LANSING STRAIN VIRUS) IN MICE

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A new method and equipment for the preparation of potent vaccines completely inactivated by ultraviolet irradiation of continuously flowing thin (less than 1 mm.) films of turbid suspensions of bacteria and viruses for less than one second has been described.[1] We have reported [2] the preparation of highly antigenic, completely inactivated vaccines for rabies and St. Louis encephalitis viruses with this technic. The present paper is a preliminary report on the preparation and antigenic studies of a completely inactivated vaccine prepared from the mouse adapted Lansing strain of poliomyelitis virus which not only evokes the formation of specific neutralizing antibodies in immunized mice but also confers a high degree of protection against subsequent intracerebral inoculation. The complete details of this paper will be published elsewhere.

Although there are a few publications [3] of the effectiveness of ultraviolet irradiation in destroying the poliomyelitis virus, to our knowledge no one has made antigenicity studies of irradiated poliomyelitis vaccines. It has been shown repeatedly that monkeys vaccinated with various completely inactivated poliomyelitis virus preparations develop little or no immunity, while active virus vaccines may stimulate immunity but are too dangerous for human use.[4] Recently the development of both resistance to intracerebral inoculation and potent humoral antibodies against the Lansing strain in mice immunized with active virus has been reported,[5] but no attempts were made to vaccinate mice or cotton rats with completely inactivated preparations of this strain.

From the Samuel Deutsch Serum Center of Michael Reese Hospital and the Michael Reese Research Foundation.

The work described in this paper was done under a contract, recommended by the Committee on Medical Research, between the Office of Scientific Research and Development and the Michael Reese Research Foundation. This work is a parallel development with other research in poliomyelitis supported by the National Foundation for Infantile Paralysis at Michael Reese Hospital. Supported in part by Parke, Davis & Co.

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2. Levinson, S. O.; Milzer, Albert; Shaughnessy, H. J.; Neal, J. L., and Oppenheimer, Franz: Production of Potent Inactivated Vaccines with Ultraviolet Irradiation. II. An Abbreviated Preliminary Report on Sterilization of Bacteria and Immunization with Rabies and St. Louis Encephalitis Vaccines, J. A. M. A. **125**: 531 (June 24) 1944.
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4. Poliomyelitis, International Committee for the Study of Infantile Paralysis, Baltimore, Williams & Wilkins Company, 1932, p. 130. Van Rooyen, C. E., and Rhodes, A. J.: Virus Diseases of Man, London, Oxford University Press, 1940, pp. 814-821.
5. Armstrong, C.: Studies on Choriomeningitis and Poliomyelitis, Harvey Lectures, Lancaster, Pa., Science Press, 1940-1941, p. 63. Young, L. E., and Cumberland, M. C.: The Mouse Adapted Lansing Strain of Poliomyelitis Virus: III. Comparison with a Strain of Mouse Encephalomyelitis Virus Isolated from the Intestines of Normal Mice, Am. J. Pub. Health **37**: 216-224 (March) 1943.

EXPERIMENTAL

Swiss mice of a single strain, 4 to 5 weeks of age, were used. Virus suspensions were prepared from pooled brains and cords of mice paralyzed two to five days after intracerebral inoculation of the mouse adapted Lansing strain of poliomyelitis virus [6] and stored at —76 C. Four per cent uncentrifuged, pooled poliomyelitis virus suspensions were completely inactivated by our technic of ultraviolet irradiation in an exposure time of 0.5 to 0.66 second. Four separate lots of completely inactivated, irradiated vaccines were prepared and tested for immunizing potency. Each lot of irradiated vaccine was shown to be completely inactivated by (1) repeated intracerebral inoculations in both mice and monkeys,[7] (2) adjusting the vaccine suspension to

TABLE 1.—*Resistance of Mice Immunized with Vaccines Completely Inactivated by Ultraviolet Irradiation to Intracerebral Inoculation of Poliomyelitis Virus (Lansing Strain)*

Vaccine Lot Number and Unvaccinated Controls *	Time of Irradiation in Seconds	No. of Intraperitoneal Injections (0.5 Cc. Each)	Time Between Initial and Challenge Dose	Dilutions of Virus Inoculated Intracerebrally in 0.03 Cc. Amounts †			
				1:10	1:100	1:1,000	1:2,000
1.....	0.5	3	3 weeks	2/12	2/12	0/10	
Controls.....	....	..	.....	12/12	12/12	8/12	6/12
2.....	0.66	3	3 weeks	3/12	1/10		
Controls.....	....	..	.....	12/12	10/10	8/10	7/10
3.....	0.63	3	3 weeks	7/36	0/10		
Controls.....	....	..	.....	33/33	10/10	9/10	8/10
4.....	0.66	3	3 weeks	3/13	2/15		
Controls.....	....	..	.....	13/13	15/15	10/10	8/10

* Each lot number designates a separate preparation.
† Numerator = number of mice which developed poliomyelitis and died. Denominator = number of mice inoculated.

TABLE 2.—*Titration of Neutralizing Antibodies in Pooled Serums of Mice Vaccinated with Poliomyelitis Vaccines Completely Inactivated by Ultraviolet Irradiation*

Serum *	Dilutions of Serum with 10 per Cent Virus Suspension †						
	1:1	1:5	1:10	1:20	1:40	1:80	1:160
3x vaccinated (lot 3).....	0/8	0/8	1/8	4/8	7/8	8/8	8/8
3x vaccinated (lot 4).....	0/8	0/8	3/8	5/8	8/8	8/8	8/8
Normal unvaccinated.....	8/8	8/8	8/8	8/8	8/8	8/8	8/8

* A number of vaccinated mice were bled just before the challenge inoculation of virus was given. Each serum tested was obtained from the pooled blood of 10 to 12 mice.
† Numerator = number of mice which developed poliomyelitis and died. Denominator = number of mice inoculated.

p_H 4.0 before inoculation,[8] (3) serial animal passage and (4) histopathologic studies of sections of the brain and cord of random safety test mice and monkeys. Safety test mice were observed for at least 120 days.

Four different groups of mice were vaccinated intraperitoneally with three 0.5 cc. injections of undiluted irradiated vaccine given at weekly intervals. The challenge dose of homologous virus was given intracerebrally to the vaccinated mice and also to the unvaccinated controls one week after the last dose of vaccine. The results obtained are presented in table 1.

6. Obtained from Dr. Charles Armstrong of the National Institute of Health, Bethesda, Md.
7. Shaughnessy, H. J.; Harmon, P. H., and Gordon, F. B.: The Heat Resistance of the Virus of Poliomyelitis, J. Prev. Med. **4**: 149-155 (March) 1930. Flexner, S.: Accelerated Infection in Experimental Poliomyelitis, Science **74**: 520-521 (Nov. 20) 1931.
8. Hammon, W. M., and Izumi, E. M.: Armstrong Mouse Adapted Poliomyelitis Virus: Effect of p_H of Inoculum and of "Enteric Organism Filtrate," Proc. Soc. Exper. Biol. & Med. **48**: 579-583, 1941.

The presence of neutralizing antibodies against the Lansing strain of poliomyelitis virus in undiluted, pooled serums obtained from selected vaccinated mice was demonstrated as early as one week after a single dose of vaccine. One week after the second and third doses of vaccine the antibody titer had increased at least tenfold. The neutralization test employed was a slight modification of the technic described by Haas and Armstrong.[9] At least 8 mice were inoculated with each serum-virus mixture, and positive and negative controls were included in every test. Table 2 shows the results of titrations of two positive serums in which serial dilutions of serum in buffered saline (p_H 7.4) were mixed with an equal volume of 10 per cent virus suspension.

Additional experiments which have been completed show that the irradiated poliomyelitis vaccine can be stored as long as four and a half months at 3 C. without significant loss of immunogenic potency. A rhesus monkey injected subcutaneously with three doses of irradiated vaccine (0.5, 1 and 1 cc. at weekly intervals) developed neutralizing antibodies one week after the second and third doses of vaccine. No antibodies were detected in serum drawn before vaccination or one week after the first injection.

SUMMARY AND CONCLUSIONS

1. Several separate lots of completely inactivated poliomyelitis vaccine (Lansing strain) were prepared by means of a new technic of ultraviolet irradiation. The virus was consistently inactivated in less than one second exposure to the source of irradiation.

2. The irradiated poliomyelitis vaccines were proved to be completely inactivated by critical safety tests in mice and monkeys.

3. Mice immunized with three doses of the irradiated poliomyelitis vaccine developed significant resistance to intracerebral inoculation and also specific serum neutralizing antibodies.

4. The irradiated poliomyelitis vaccine exhibited no significant loss of potency after four and a half months storage at 3 C.

9. Haas, V. H., and Armstrong, C.: Immunity to the Lansing Strain of Poliomyelitis as Revealed by the Protection Test in White Mice, Pub. Health Rep. **24**: 1061-1068 (June 14) 1940.

Babylonian-Assyrian Medicine.—The existence of a well established medical profession in that broad expanse between the Euphrates and the Tigris rivers was revealed by the discovery of the so-called Code Hammurapi. According to most Assyriologists, Hammurapi was the sixth king of the first dynasty of Babylonia, reigning for fifty-five years, around 725 B. C. He was a stern but just ruler and a great soldier; he codified the existing customs and laws regulating the social and commercial conduct of his subjects, mainly with the purpose of defending the weak against the oppression of the strong. Among the two hundred and eighty-two separate regulations, nine refer to the practice of surgery—to the medicolegal phase of medicine. The fees were fixed according to the social strata of the patients, and rather severe penalties were meted out in cases of operative failure. Singularly enough, no references are found pertaining to nonsurgical diseases; probably that phase of medicine was in the hands of priests, and cures depended on incantations and prayers more than on drugs. Yet we must not lose sight of the fact that they had a not inconsiderable knowledge of chemistry, which may have been a factor in the preparation of drugs.—Ricci, James C.: The Genealogy of Gynaecology, Philadelphia, Blakiston Company, 1943.

Clinical Notes, Suggestions and New Instruments

INTRAVENTRICULAR PENICILLIN IN THE TREATMENT OF STAPHYLOCOCCIC MENINGITIS

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Several reports have appeared in the literature of the use of penicillin intrathecally, with good results. Rammelkamp and Keefer [1] treated 6 patients with intrathecal penicillin, including 2 with brain abscess and meningitis and 2 with meningitis. In 2 of the patients who died, penicillin was demonstrated in the cerebrospinal fluid removed from the third ventricle and from the cisterna magna. They suggested an initial dose of not more than 10,000 Florey units, followed by subsequent doses of 5,000 units every twenty to twenty-four hours. Absorption and excretion were more rapid in patients with meningitis than in those without meningitis. There were no reactions to the intrathecal penicillin except as evidenced by an increase in the number of leukocytes in the spinal fluid and an occasional headache.

A discussion arising from the death of a patient with streptococcic meningitis who had been treated with penicillin intrathecally produced the suggestion by Lieut. Col. R. G. Spurling of the neurosurgical service that the drug might not be reaching

Dosage and Cell Counts During Treatment

Date	Intrathecal Penicillin Units	Ventricular Penicillin Units	Spinal Fluid Cell Counts	Temperature, F.	White Count
6/26	.....	.....	23,750	105	9,200
6/28	17,500	.....	6,480	103.8	8,100
6/29	15,000	.....	4,400	104.8	7,600
6/30	10,000	.....	2,200	101.2	.....
7/ 1	10,000	.....	2,980	100.4	.....
7/ 2	10,000	.....	5,280	100.4	7,600
7/ 3	10,000	.....	2,475	101.4	7,600
7/ 4	10,000	.....	2,080	101	.....
7/ 5	7,500	7,500	.....	102	5,200
7/ 6	5,000	.....	.....	101	.....
7/ 7	5,000	6,000	675	103	7,300
7/ 8	.....	.....	170 (ventricular)	101	12,200
7/10	.....	.....	345	100.4	9,500

the infection within the ventricles in sufficient concentration. In the case to be reported, after the clinical course had reached a standstill under intrathecal administration, it was decided to inject the chemotherapeutic agent directly into the ventricles to insure maximum levels within the brain.

A brief survey of the literature reveals no reported cases of this method of penicillin administration. It is thought noteworthy that in this case the intraventricular injection of the drug was effective and produced no apparent harmful reaction. It should be emphasized that this method of treatment is recommended only for those patients who have failed to respond to intraspinal penicillin therapy.

REPORT OF CASE

A sergeant aged 25 had been well and free from symptoms until the evening of June 12, 1943. At that time, while riding a bicycle along a highway near Minersville, Pa., he was struck by an automobile and rendered unconscious.

He was taken to the Pottsville Hospital, where physical examination is said to have revealed an irregular swelling on the right forehead, pupils which were equal, dilated and reacted poorly to light, and an abrasion on the left shoulder. The temperature was 99.4 F. Physical and neurologic examination except for moderately deep unconsciousness were otherwise negative.

Blood studies were within normal limits. X-ray films of the skull showed a linear fracture in the right frontal bone starting 1 cm. from the midline and extending into the right frontal accessory nasal sinus.

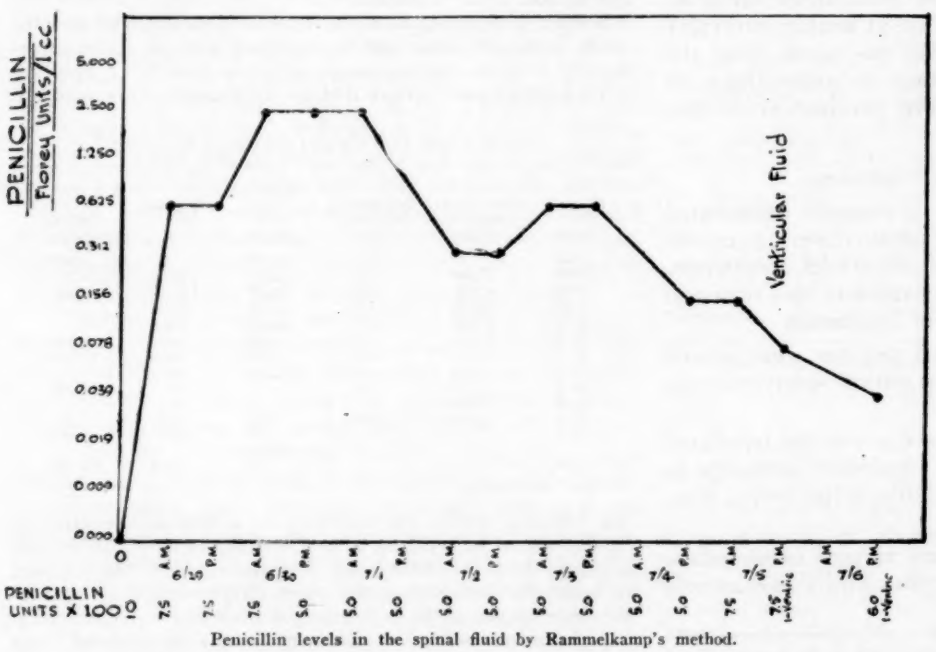
From the Neurosurgical Section and the Laboratory Section, Walter Reed General Hospital, Washington, D. C.

1. Rammelkamp, C. H., and Keefer, C. S.: The Absorption, Excretion and Toxicity of Penicillin Administered by Intrathecal Injection, Am. J. M. Sc. **205**: 342 (March) 1943.

Throughout the following two weeks the patient remained semiconscious, irrational, restless and incontinent of urine. He was said to have recognized his wife on one occasion. Temperatures varied from normal to 102.4 F. (axillary), pulse rates from 72 to 102. Lumbar puncture was said to have revealed blood tinged spinal fluid under a pressure of 330 cm. of water on June 23. The neurologic findings did not change materially from day to day. Treatment included only routine nursing care, 50 per cent dextrose twice daily and sulfathiazole 1 Gm. every four hours for two days. He was transferred to Walter Reed General Hospital on June 26.

On arrival at this hospital he was unconscious, restless and uncooperative, and remained so throughout the following six days. The temperature on arrival was 103 F. (rectal) and soon rose to 105, the pulse rate 128, respiratory rate 24. Neurologic examination was negative except for moderate rigidity of the neck, a positive Kernig sign, absent abdominal reflexes and positive Babinski and Gordon signs on the right.

A spinal puncture yielded cloudy fluid with an initial pressure of 180 cm. of water. Dynamics were normal. The fluid contained 23,750 leukocytes and 90 per cent polymorphonuclears. Cultures showed coagulase positive Staphylococcus aureus. The white blood cell count was 9,200, red blood cell count 4,000,000, hemoglobin 94 per cent, and nonprotein nitrogen 25 mg., blood sugar 101 mg. and chlorides 495 mg. per hundred cubic centimeters. The urine had a specific gravity of 1.011, no albumin, no sugar and a normal sediment. An electroencephalogram showed the dominant rhythm to be slow, but there was no evidence of focalization.



Penicillin levels in the spinal fluid by Rammelkamp's method.

Treatment and Course.—On admission sodium sulfadiazine 5 Gm. was administered intravenously, followed by 2.5 Gm. every twelve hours for two days. On June 28, however, the temperature was still 103.8 F. (rectal) and the pulse rate 118. Spinal tap showed an initial pressure of 210 cm. of water with cloudy fluid containing 6,480 leukocytes, 90 per cent polymorphonuclears and a positive culture for Staphylococcus aureus. Consequently, intrathecal penicillin was begun, with an initial dose of 10,000 Florey units. This was followed by subsequent doses of 7,500 units intrathecally twice daily for three doses, then 5,000 units twice daily for five days. No untoward reactions were noted. The state of unconsciousness remained unchanged, but the temperature dropped to 101.4 F. and the pulse rate to 92. The number of leukocytes in the spinal fluid dropped to 2,200 on June 30 and the culture became sterile. However, the spinal fluid cell count fell only slightly beyond that point, and on July 5, after seven days of intrathecal penicillin, the temperature rose to 102 F. In view of the possibility of an epidural abscess of the brain, bilateral burr holes in the posterior parietal area were made, but no collection of epidural fluid or pus was found. A needle was then passed into the right ventricle and 8 cc. of slightly turbid, colorless fluid withdrawn, which showed only minimal bacteriostatic activity in spite of the fact that 7,500 units of penicillin had been introduced by lumbar puncture two hours earlier. Seven thousand five hundred Florey units of penicillin was then dissolved in 5 cc. of saline solution and introduced into the ventricle. The galea and skin were closed. There was no immediate reaction to the procedure. On the following day, July 6, the temperature had fallen to 101 F. and the pulse rate to 80. On July 7 the temperature rose again to 103 F., the pulse rate to 104. Spinal tap resulted in fluid which was much clearer and contained only 675 leukocytes, with 65 per cent polymorphonuclears. The culture of this fluid was sterile. The right ventricular fluid removed contained only 170 leukocytes, with 59 per cent polymorphonuclears. The temperature on the following day was 101 F. but thereafter was never higher than 100.4 F.

Because of the shortage of the therapeutic agent, penicillin was stopped on July 7 and sodium sulfadiazine begun with an initial intravenous dose of 5 Gm., followed by 2.5 Gm. every twelve hours until July 11. From July 11 to July 18, 4 Gm. of sulfadiazine was given daily by mouth, and on July 18 all medication was stopped. After the withdrawal of penicillin and the change to sulfadiazine the spinal fluid cell count rose to 345 cells on July 10 and 665 cells on July 12 but then gradually fell to a count of 17 cells with 4 per cent polymorphonuclears on July 26. On that day, through a right frontal burr hole exploration, a small, old, subdural hygroma containing about 14 cc. of clear, yellow, sterile fluid was evacuated.

During this course of treatment the patient's mental state gradually improved to a level at which he was able to recognize friends, eat with help, read large type and carry on a very simple conversation. At last report he was able to play rummy, read the comic strips and go to the bathroom with help. The meningitis has been cured. After July 14 his temperature remained normal and neurologic examination showed no abnormal findings. There were no pronounced changes in the urine or blood counts during treatment.

SUMMARY AND CONCLUSIONS

This case of staphylococcic meningitis treated with intrathecal and intraventricular penicillin is presented chiefly to show that intraventricular use of penicillin as an adjunct to the intrathecal route of administration is possible without untoward reactions and with good effect. The fact that there was evidence of only minimal passage of penicillin from the spinal canal into the ventricles in two hours reemphasizes the fact that the normal flow of cerebrospinal fluid may hinder the free passage of therapeutic agents from the spinal canal into the ventricular system. This is especially true in meningitis when arachnoid adhesions and exudate may partially obstruct the normal spinal fluid pathways. The introduction of penicillin directly into the ventricles overcomes this handicap and insures a more uniform distribution of the therapeutic agent throughout the cerebrospinal fluid system. The dosage used in this case was not large and in the light of future knowledge may prove to have been too small. The levels of penicillin in the spinal fluid during treatment are shown on the graphic chart. The introduction of a needle into the ventricle in the acute stage of meningitis should be performed with caution, and not until penicillin has been given intraspinally for several days.

COUNCIL ON PHARMACY AND CHEMISTRY

At periodic intervals the Council on Pharmacy and Chemistry will offer brief statements on the present status of therapeutic or prophylactic procedure in fields of current interest. This information will be selected for its special value to those engaged in general practice.

Austin E. Smith, M.D., Secretary.

PENICILLIN

EFFECTIVE IN

All *staphylococcic infections* with and without bacteremia:
- Acute osteomyelitis
- Carbuncles—soft tissue abscesses
- Meningitis
- Cavernous or lateral sinus thrombosis
- Pneumonia—empyema
- Carbuncle of kidney
- Wound infections

All cases of *clostridial infections:*
- Gas gangrene
- Malignant edema

All *hemolytic streptococcic infections* with bacteremia and all serious local infections:
- Cellulitis
- Mastoiditis with intracranial complications, i. e. meningitis, sinus thrombosis, etc.
- Pneumonia and empyema
- Puerperal sepsis
- Peritonitis

All *anaerobic streptococcic infections:*
- Puerperal sepsis

All *pneumococcic infections* of
- Meninges
- Pleura
- Endocardium

All cases of sulfonamide resistant pneumococcic pneumonia

All gonococcic infections complicated by
- Arthritis
- Ophthalmia
- Endocarditis
- Peritonitis
- Epididymitis

Also all cases of sulfonamide resistant gonorrhea

All meningococcic infections not responding to the sulfonamides

NOT ESTABLISHED AS EFFECTIVE FOR

All gram-negative bacillary infections:
- Typhoid—Paratyphoid
- Dysentery
- Escherichia coli
- Haemophilus influenzae
- Proteus vulgaris
- Bacillus pyocyaneus
- Brucella melitensis (undulant fever)
- Tularemia
- Friedländer's bacillus

Tuberculosis

Toxoplasmosis

Histoplasmosis

Acute rheumatic fever

Lupus erythematosis disseminatus

Infectious mononucleosis

Pemphigus

Hodgkin's disease

Acute and chronic leukemia

Ulcerative colitis

Coccidioidomycosis

Malaria

Poliomyelitis

Blastomycosis

Nonspecific iritis and uveitis

Moniliasis

ADMINISTRATION

Method of Preparing Penicillin for Treatment

Penicillin is supplied in ampuls of different sizes—25,000 units and 100,000 units each. As penicillin is extremely soluble, it may be dissolved in small amounts of sterile distilled, pyrogen-free water or in sterile isotonic solution of sodium chloride. When large unit sizes are being used in hospitals, the contents of the ampul should be dissolved in water or saline solution so that the final concentration is 5,000 units per cubic centimeter. This solution should be stored under aseptic precautions in the ice box and made up fresh every day. Solutions for local or parenteral use may be diluted further, depending on the concentration desired.

For intravenous injection

1. The dry powder may be dissolved in sterile isotonic solution of sodium chloride in concentrations of 1,000 to 5,000 units per cubic centimeter for direct injection through a syringe.

2. The dry powder may be dissolved in sterile saline or 5 per cent dextrose solution in lower dilution (25 to 50 units per cubic centimeter) for constant intravenous therapy.

For intramuscular injection

1. The total volume of individual injections should be small, i. e. 5,000 units per cubic centimeter of isotonic saline solution.

For topical application

1. The powdered form of the sodium salt is irritating to wound surfaces and should not be used.

2. Solutions in isotonic salt solution with a concentration of 250 units per cubic centimeter are satisfactory. For resistant or more intense infections this concentration may be increased to 500 units per cubic centimeter.

DOSAGE

The dosage of penicillin will vary from one patient to another, depending on the type and severity of infection. Recovery has followed in many serious infections following 40,000 to 50,000 Oxford units a day; in others 100,000 to 120,000 or even more is necessary. The objective in every case is to bring the infection under control as quickly as possible. It is well to remember that penicillin is excreted rapidly in the urine, so that following a single injection it is often impossible to detect it in the blood for a period longer than two to four hours. It is well, therefore, to use repeated intramuscular or intravenous injections every three or four hours or to administer it as a continuous infusion.

In the treatment of *meningitis, empyema* and *surface burns of limited extent,* penicillin should be injected directly into the subarachnoid space, into the pleural cavity, or applied locally in solution containing 250 units per cubic centimeter.

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SATURDAY, JULY 8, 1944

TIME NOW TO PROTEST AGAINST GOVERNMENT'S THREAT TO MEDICAL EDUCATION

In January 1944 it seemed that civilian and military needs for doctors would be met reasonably satisfactorily by the arrangement in which the 55 per cent of entering medical school classes would be provided by the Army Specialized Training Program, 25 per cent by the Navy V-12 Program and 20 per cent from civilian sources. In the past six months this program has rapidly deteriorated. Today medical educators and the medical profession of the country refuse to accept the responsibility for the acute shortage of medical care which will threaten this country within a few years if current regulations and policies persist. The responsibility must rest with the armed forces, the Selective Service System, the President and the Congress of the United States.

In February the Army drastically curtailed the Army Specialized Training Program and has since renegotiated its contracts with medical schools to provide 28 per cent of the 1945 entering classes instead of 55 per cent, increasing to 47 per cent the numbers medical schools must obtain from civilian sources.

In April the Selective Service System abolished all further occupational deferments of premedical and medical students not enrolled in medical schools by July 1, 1944. As a consequence, it was estimated that the entering classes of 1945 would be reduced 25 to 30 per cent.

The threat to medical care entailed in these policies was pointed out to General Hershey, the Secretaries of War and the Navy, the President and others, with the suggestions that the situation could be met by (*a*) reinstitution of the inactive reserves by the Army and Navy, which functioned well for a year, and/or (*b*) an appropriate Selective Service adjustment, which was definitely a second best arrangement.

The Army and Navy rejected the first alternative as an evasion of the Selective Service law, and the Selective Service System rejected the alternate proposal because of the acute need of the Army for young men. The needs for medical care were considered to be subordinate to the needs of the fighting forces.

Alarmed at these developments, the House of Delegates of the American Medical Association, on the recommendation of the Council on Medical Education and Hospitals of the American Medical Association, passed the following resolution at its opening session, June 12:

Whereas, The present policy of the Army and the Selective Service System in preventing the enrolment of a sufficient number of qualified medical students will inevitably result in an overall shortage of qualified physicians, with imminent danger to the health and well being of our citizens; therefore be it

Resolved, That it is imperative that immediate action be taken by the President or the Congress of the United States to correct the current drastic regulations, which result in a restriction of the number of students qualified to enter the courses of medical instruction in approved medical schools.

This resolution was sent to the President, the Secretaries of War and the Navy, the Selective Service System and all members of the House and Senate Military Affairs committees.

The latest measure still further jeopardizing medical education and medical care was the passage of the Army appropriation bill by Congress June 21. This bill includes the following provision:

Provided That no appropriation contained in this Act shall be available for any expense incident to education of persons in medicine (including veterinary) or dentistry if any expense on account of this education in such subjects was not being defrayed out of appropriations for the military establishment for the fiscal year 1944 prior to June 7, 1944. . . .

This provision would seem to eliminate from 1946 entering medical classes the 28 per cent of places contracted for by the Army. Even if the Navy increases its quota from 25 per cent to 31 per cent, schools will be obliged to obtain 69 per cent of their students from women and physically disqualified males. Nothing even approaching this number of qualified civilian students is available. Classes will probably be half filled in the country at large.

Should an adjustment not be made to correct the present alarming situation, a tremendous reduction of graduates after the war will ensue. Although schools will continue the accelerated program, they will admit classes only once annually instead of every nine months.

This of itself will reduce the number of graduates from the present annual average of 7,000 to 5,000. If classes can be only half filled, this number will be reduced to 2,500 graduates per year. Since 3,300 to 3,500 physicians die each year, there will result an annual and cumulative deficit of 2,000 doctors a year.

Still further reductions in graduates and permanent damage to the "plant" of medical education will result from some schools being forced to close their doors because of drastically curtailed enrolments. An unknown number of war casualties among medical officers will also reduce the supply of physicians.

These reductions in medical graduates will occur in the face of new and increased demands for medical services, mainly from the civilian population, the standing army and navy, the Veterans Administration and the liberated countries of Europe.

Full support should be forthcoming from the medical profession for the Miller bill (H. R. 5128), with modifications, which reads:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 5 of the Selective Training and Service Act of 1940, as amended, is amended by inserting at the end thereof a new subsection reading as follows:

"(n) There shall be deferred from training and service under this Act in the land and naval forces of the United States, as necessary to the maintenance of the national health, safety, and interest, in each calendar year not less than six thousand medical students and not less than four thousand dental students. As used in this subsection the term 'medical or dental student' means (1) a person who is enrolled in, and who is pursuing a course of instruction prescribed for the degree of doctor of medicine at an accredited medical college; and a person who is enrolled in, and who is pursuing a course of instruction prescribed for the degree of doctor of dentistry at an accredited dental college; or (2) a person who is pursuing a regular course of instruction at an accredited college or university (satisfactory completion of which will make such person eligible for enrolment in an accredited medical or dental college) with the bona fide intention of entering an accredited medical or dental college and pursuing and completing the course of instruction prescribed for the degree of doctor of medicine or for the degree of doctor of dentistry."

Protests against the blind disregard for medical care in the future should be addressed to the Senate (Senator Robert R. Reynolds, Chairman) and House (Representative Andrew J. May, Chairman) Committees on Military Affairs, the Senate Committee on Education and Labor (Senator Elbert D. Thomas, Chairman) and the House Committee on Education (Representative Graham A. Barden, Chairman). Every state medical society, medical school and medical scientific society should express itself in no uncertain terms on these developments.

TONSILLECTOMY AND POLIOMYELITIS

In the relationship between tosillectomy and poliomyelitis two clinical facts seem to have been established, as emphasized in an editorial in THE JOURNAL:[1] (1) Acute poliomyelitis developed more often among recently tonsillectomized children, and (2) the increased incidence was due entirely to the excess of cases of the bulbar type. In his review of the available data Aycock[2] pointed out that the less common bulbar form predominated in the combined statistics over the spinal form in a ratio of about five to one in the cases occurring within thirty days following tonsillectomy. The operation of tonsillectomy and adenoidectomy, therefore, appears to bear in the thirty day group a causal relationship to acute poliomyelitis, especially the bulbar type of the disease.

A communication by Page[3] in a recent issue of the *Archives of Otolaryngology* reports 1 case of poliomyelitis following 8,915 tonsillectomies. In his study, questionnaires were sent by the Manhattan Eye, Ear and Throat Hospital to 27,489 patients tonsillectomized during the years 1937 to 1941 inclusive. A total of 8,915 replies were received to the question "Have you had any illness since the tonsillectomy? What were the nature and the date of illnesses, if any?" The finding of only 1 case of acute poliomyelitis following 8,915 tonsillectomies assumes particular importance, since these were the years in which the disease was most prevalent. For 1941, when 404 cases of poliomyelitis with eight deaths were reported by the New York Department of Health, 7,500 cards were sent out and 3,500 replies were returned without illnesses reported. Stillerman and Fischer[4] found in the epidemic of poliomyelitis in New York City that among 686 patients with poliomyelitis admitted to the Willard Parker Hospital in 1935 there were 10 in whom tonsillectomy and adenoidectomy had been performed during the month antedating their illness. In 8 of these patients symptoms of poliomyelitis were manifest within ten to twelve days after the operation. Six of the patients had the bulbar or encephalitic form of the illness. Inquiry by the same authors among 52 patients admitted to the same hospital in 1937 disclosed that 3 had been tonsillectomized within the month preceding the disease. Operation was performed on 2 of these fourteen days and on the third twenty-one days before the onset of the disease. All 3 had the bulbar type, and all of them died.

1. Tonsillectomy and Poliomyelitis, editorial, J. A. M. A. **118**: 980 (March 21) 1942.
2. Aycock, W. L.: Tonsillectomy and Poliomyelitis, Medicine **21**: 65 (Feb.) 1942.
3. Page, John Randolph: Tonsillectomy and Poliomyelitis: One Case of Poliomyelitis Following 8,915 Tonsillectomies, Arch. Otolaryng. **39**: 323 (April) 1944.
4. Stillerman, Maxwell, and Fischer, Alfred E.: Acute Bulbar Poliomyelitis Following Recent Tonsillectomy and Adenoidectomy, Am. J. Dis. Child. **56**: 778 (Oct.) 1938.

The discrepancy in the statistics of Page and those of Stillerman and Fischer and of Aycock and others is no doubt due to the method of investigation. The majority of the workers in this field would probably still support the warning sounded in the editorial of THE JOURNAL: Since tonsillectomy is almost always selective as to time, it would appear desirable that it be performed during the season which does not coincide with the prevalence of poliomyelitis.

Current Comment

ABNORMAL SECRETION OF THE PANCREAS AND OTHER GLANDS A SYSTEMIC DISEASE

According to Farber[1] and his associates obstructive conditions in the pancreas early in life are associated with meconium ileus in the neonatal period and later with nutritional disturbances, in which the celiac syndrome and serious respiratory disease predominate. Farber deals particularly with the pancreas, the respiratory system, the liver and the salivary glands of young children with pancreatic insufficiency. In the pancreas he found more or less complete atrophy of the exocrine parenchyma associated with and apparently due to the accumulation of inspissated secretion in the acini and in the variously dilated ducts. In what seemed to be the early stage of the process the acini and smaller ducts contained eosinophilic homogeneous masses that would cause obstruction to the outflow of pancreatic juice as suggested by Wolbach some years ago. In such cases the duodenal contents did not give evidence of the activity of pancreatic enzyme. In the patients with the symptoms and lesions of obstructive pancreatic achylia who lived more than a few months after birth, both the lungs nearly always showed effects of obstruction in the trachea, the bronchi and the bronchioles by thick, tenacious mucoid and mucopurulent material. The mucous glands of the trachea and bronchi were distended with material like that in the pancreatic acini and ducts. This was the case also in the salivary glands and the mucous glands of the esophagus, the duodenum, the gallbladder and the jejunum. The microscopic changes in the liver duplicated "in all important findings the lesions in the pancreas, even to the color and the appearance of the inspissated secretions." The pancreas may be only one of many glandular structures of which the secretions are subject to physical changes of as yet unknown nature that cause obstruction and dilatation of acini and ducts, with far reaching functional and anatomic consequences. "What has been called cystic fibrosis of the pancreas or pancreatic fibrosis is really a systemic disease with a variety of clinical appearances, the occurrence of which depends on when the obstructive changes occur and which organs are affected." Better understanding of this disease calls for studies of the nature and causes of the alterations in the glandular secretions.

1. Farber, S.: Pancreatic Function and Disease in Early Life: V. Pathologic Changes Associated with Pancreatic Insufficiency in Early Life, Arch. Path., to be published.

THE REPUBLICAN PLATFORM

Evidence of the extent to which the point of view of the medical profession is prevailing in the further development of medical service in the United States is apparent in those sections of the Republican platform adopted in Chicago last week which deal with this subject. Under the heading of Security the platform states:

> Our goal is to prevent hardship and poverty in America. That goal is attainable by reason of the productive ability of free American labor, industry and agriculture, if supplemented by a system of social security on sound principles.
>
> We pledge our support of the following:
>
> 1. Extension of the existing old age insurance and unemployment insurance systems to all employees not already covered.
>
> 2. The return of the public employment-office system to the states at the earliest possible time, financed as before Pearl Harbor.
>
> 3. A careful study of federal-state programs for maternal and child health, dependent children and assistance to the blind, with a view to strengthening these programs.
>
> 4. The continuation of these and other programs relating to health, and the stimulation by federal aid of state plans to make medical and hospital service available to those in need without disturbing doctor-patient relationship or socializing medicine.
>
> 5. The stimulation of state and local plans to provide decent low cost housing properly financed by the Federal Housing Administration, or otherwise, when such housing cannot be supplied or financed by private sources.

When the platform of the Democratic party becomes available, it also will be published in these columns.

CONTINUATION COURSES FOR PRACTICING PHYSICIANS

Elsewhere in this issue the Council on Medical Education and Hospitals lists the continuation courses available in all parts of the country to practicing physicians during the second half of 1944. These include courses in a wide variety of fields in clinical medicine and the basic sciences. The courses run for variable periods from one to several weeks. Some are concentrated full time courses and others are part time. This information is provided semiannually by the Council in response to a widespread demand which has persisted ever since the beginning of the war. A special effort at extensive coverage of available courses has been made in the current listing. Schools offering such courses will assist the Council by regularly providing information about them.

MEDICINE AND THE WAR

ARMY

ARMY PROVIDES MEDICAL KITS FOR PRISONERS' HELD BY JAPANESE

The Army Medical Department has developed special medical supplies for shipment to the Far East in an effort to provide the best possible care for American prisoners under control of the Japanese. The specially packed supplies have been designed for distribution by the International Red Cross, and packing cases will be labeled in English and in Japanese. The new plan for making supplies available to American and Allied prisoners of the Japanese was developed by a committee of officers in the Office of the Surgeon General. Besides drugs, the shipments contain dressings, simple types of surgical and dental instruments, sterilizing equipment, insecticides and water purifiers. The shipments are prepared in three types of units: a 100 man unit containing five separate packages, a hospital unit and a bulk supplies unit. Ten 100 man units, plus the hospital and bulk supplies unit, contain supplies believed to be sufficient for the needs of 1,000 men for three months. In order to facilitate handling and make for easy recognition by non-English speaking labor the special plywood, waterproofed cases, each of which bears a large red cross and is addressed to the International Red Cross delegate, are painted in special colors according to the type of unit. The American Red Cross has requisitioned a number of units and has informed the Medical Department that it is hopeful that permission for distribution will be granted by the Japanese government.

Approximately 126 different drugs are provided, and each individual package of the 100 man unit contains a booklet with precise instructions, couched in simple, nontechnical terms, for use of the medicines. The 100 man unit contains those drugs which can be best used by laymen, while the hospital and bulk supplies units are intended for installations where professional services may be available. The medicines selected are those most useful in treating diseases known to be prevalent in the Far East and for ailments likely to beset persons living under prison camp conditions. Some of the diseases for which one or more medicines are prescribed, together with instructions for their use, are anemia, fevers, beriberi, blood poisoning, diarrhea, dysentery, skin infections, scurvy, pellagra, pneumonia, meningitis, ulcers and rickets.

As a result of the new supply plan, all shipments of British, Canadian and American medical supplies to prisoners of the Japanese in the future will be standardized and may be used interchangeably.

MOBILE X-RAY UNITS FOR INVASION

After several months of experimentation the European theater of operations chief surgeon's office has announced that mobile x-ray units will follow American troops onto the continent. Lieut. Col. Kenneth D. A. Allen of Denver, who conceived the idea in 1943 and followed it through successfully, stated that the primary purpose of the mobile units, as in all medical corps work, is to keep men in the fighting front by prompt, accurate diagnosis and by location of foreign bodies and to save lives. Hospitals in the field are unable to carry enough x-ray equipment to handle peak loads of patients, so mobile units will be rushed to them when needed. They may also be sent to clearing stations where no x-ray equipment is available. The personnel consists of one medical officer, a specialist in x-ray work and three enlisted men. Two blacked out tents attached to a tarpaulin covering the back of the truck serve as patients' waiting rooms and picture taking rooms. The back end of the truck is used for developing and drying x-ray films. Generators furnish power for drying film, for control of water temperature, for lighting and for powering the x-ray machine. Capt. Charles D. Rancourt of Albany, N. Y., who assisted Colonel Allen in the construction of the unit, has been demonstrating the original unit before hundreds of medical corpsmen. Colonel Allen, senior consultant in radiology to the theater chief surgeon, has been in the Army since May 1942. He taught in the x-ray school at Fitzsimons General Hospital in Denver until he went to England in January 1943.

TYPHUS NO LONGER IMPERILS U. S. SOLDIERS

Brig. Gen. Leon A. Fox, field director of the U. S. Typhus Commission, recently stated that "typhus has been removed from the list of diseases fatal to the American soldier." General Fox was recently credited with having saved Naples last January from what might have been one of the worst typhus plagues in history and with having stopped the epidemic in record time. General Fox attributes this accomplishment to the Army's DDT powder and to the complete cooperation given to him by the commander of that area. In one day during the typhus epidemic in Naples General Fox's typhus team treated 73,000 people with DDT powder. Having arrived in Naples when the epidemic was just getting under way with the civilian population (December 20) General Fox went to work with his crew and by February 1, at a time when ordinarily there would be 500 cases a day reported, there were only 5 to 6 a day, and the epidemic was over. Although vaccinated against typhus, each soldier carries a small can of DDT powder.

WAC NEEDS ADDITIONAL TRAINED MEDICAL TECHNICIANS

The Women's Army Corps needs additional trained medical technicians. Physically qualified young women with high school education are urged to make application for enlistment in the WAC service with the medical department. Major Gen. Norman T. Kirk, Surgeon General of the Army, recently sent out an appeal for women volunteers in hospital work. The Army offers training to competent young women enlisted in the Women's Army Corps in the field of medical laboratory, dental, x-ray and other technical subjects.

STATE HOSPITAL LEASED TO ARMY

The new Edgewood State Hospital at Deer Park, L. I., has been turned over to the War Department to be used for hospital purposes. Under the terms the War Department will reimburse the state for actual expenses incurred at the institution, pay for depreciation on buildings and equipment and restore the hospital to its present state at the end of Army occupancy. The hospital is nearing completion and will accommodate 2,300 beds.

FLIGHT SURGEONS' ASSISTANTS

A class of forty-eight flight surgeons' assistants completed the six weeks course in aviation medicine at the School of Aviation Medicine, Randolph Field, Texas, June 9. These men are trained as specialists in assisting flight surgeons in the selection, care and maintenance of the flier. Brig. Gen. Eugen G. Reinartz, U. S. Army, is commandant of the school.

PROMOTIONS IN THE ARMY MEDICAL DEPARTMENT

The following promotions to the rank of brigadier general (temporary) were recently announced by the War Department:

Col. George B. Foster Jr., Salem, Mass.
Col. Henry C. Dooling, Clayton, N. J.
Col. Ralph G. DeVoe, Seattle.

ARMY AWARDS AND COMMENDATIONS

Major Daniel H. Maunz

The Soldier's Medal was recently awarded to Major Daniel H. Maunz, formerly of Bradford, Pa. The citation accompanying the award read "On receipt of information at an army air forces installation at Presque Isle, Maine, that a civilian cook with a detachment was seriously ill with acute appendicitis at River Clyde, Northwest Territory, Canada, and that no doctor was available, he tendered his services in a professional capacity. Since it was impossible to land a plane safely in the vicinity of River Clyde, he volunteered to make a parachute jump, although he had no previous experience, in order to reach his patient. On Nov. 18, 1943 the rescue plane reached River Clyde. He exited at 1,200 feet, landed successfully and performed an operation which undoubtedly saved the patient's life." Dr. Maunz graduated from the University of Buffalo School of Medicine in 1931 and entered the service Oct. 5, 1942.

Colonel Robert K. Simpson

The War Department recently announced the award of the Legion of Merit to Col. Robert K. Simpson, who "performed outstanding services from April 1941 to September 1943. As surgeon of the AAF Gulf Coast Training Center and later of the AAF Central Flying Training Command, he procured more than 300 eminent physicians and surgeons for commission in the Army. He revised hospital plans in keeping with climatic conditions, designed infirmaries and established an itinerant dental and veterinary service for civil contract schools. He organized and established schools for medical and postgraduate specialized training. He established air ambulance service for Matagorda Island and Peninsula, and recreation and convalescence areas. At the same time he provided medical service for indigent dependents of military personnel and a well functioning consultation service for smaller outlying stations. He devised an efficient hand phorometer that can be packed in the flight surgeon's physical examining set. All of his efforts contributed materially to the efficiency and orderly expansion of the Air Forces." Dr. Simpson graduated from the University of Texas Medical Branch, Galveston, in 1916.

MISCELLANEOUS

ABOLITION ON CIVILIAN DEFENSE REGIONAL OFFICES

Administrative Order No. 38, recently published by the Office of Civilian Defense, Washington, D. C., abolishes all civilian defense regions excepting the Washington region, as provided for in Administrative Order No. 33, dated Feb. 25, 1943, as subsequently revised and amended, and all powers and duties that have been delegated by the director of civilian defense to the regional directors are rescinded. Regional offices of civilian defense and regional civilian defense boards are hereby disestablished. Supplies, equipment, records and personnel problems arising from such disestablishment shall be met on the basis of specific instructions to each regional director. The functions and services heretofore performed by regional offices under their delegated powers and duties shall be performed hereafter by the Washington office or by such other methods as the director shall determine. The order is effective as of July 1, 1944.

MEDICAL AND SURGICAL RELIEF COMMITTEE OF AMERICA

A donation of 100,000 atabrine tablets, valued at $1,500, was recently made by the Medical and Surgical Relief Committee of America (420 Lexington Avenue, New York 17) to the Friends Ambulance Unit in Calcutta to alleviate the suffering of malaria stricken victims among the civilian and military population in India. The committee also sent to India during the last month, in conjunction with the American Friends Service Committee, $5,100 worth of drugs—sulfapyridine, sulfaguanidine and atabrine tablets.

COLE LABORATORIES AWARDED ARMY-NAVY E PENNANT

The Cole Laboratories, Long Island City, N. Y. (of which Retort Pharmaceutical Company is a division) have received the Army-Navy E Award. The Cole Laboratories operate three plants, where continuous laboratory control is maintained to insure products being manufactured according to specifications.

AWARDED ARMY-NAVY E

The Wilmot Castle Company, manufacturers of sterilizing equipment, has been awarded the Army-Navy E for achievement in war production. The presentation was made Thursday, June 22. The ceremonies were held in Cutler Union on the University of Rochester Campus.

PUBLIC HEALTH UNDER HITLER

Nya Dagligt Allehanda for March 11, 1944 (Germany) STB reports: Certain German universities have introduced a numerus clausus for medical students owing to the unusually large number of enrolments. One newspaper interviewed the head of the medical school at Heidelberg and asked him whether medicine is now a fashionable subject. The dean demurred and said that the matter will gradually be regulated but that there is still a shortage of doctors. The German authorities, however, distrust the sudden enthusiasm for medicine among women students and decided to investigate the matter at Heidelberg. Every woman student was forced to produce papers proving that she did not suddenly decide to become a doctor but planned it during her attendance at school. Out of 200 students 170 were able to produce evidence and others were able to plead "extenuating circumstances." Investigations were easier with regard to the male students since the majority were in uniform and belonged to a student company sent home for studies. But only those who had previously enrolled with the faculty of medicine may be sent to the university from the front. Konjunkturmässige, a new German expression, therefore, have little chance of being included in these companies. Those who do not attend to their studies properly are immediately taken over by the labor organizations.

The March 13, 1944 issue of *Le Journal* (France) states that the number of cases of scabies treated in Saint-Louis Hospital in Paris alone varied from 8,005 in 1939 to 93,559 in 1943. Sometimes over 600 patients are treated daily. The old unpleasant method of treatment with soft soap baths plus helmerich ointment has now been given up for the new "120" treatment, namely the painting of the whole body twice within fifteen minutes with liquid derivative of benzoate of benzoyl.

The Vichy Home Service for March 3, 1944 (France) reports that in 1943 the doctors made a great effort to relieve those colleagues who since the Armistice have been providing the health service in the prisoners' camps; 470 serving military doctors have replaced 84 serving doctors and 382 reserve doctors in the stalags and oflags. Another 112 doctors have joined them; 29 of them are volunteers and 83 were sent by the State Secretariat for Health.

A German from the town of West Sternberg has been sentenced to death by a special court at Frankfort for performing nine abortions, the Nazi DNB agency reported recently in a wireless dispatch to the German domestic press. The dispatch, reported by United States government monitors, said that the German had been sentenced under a new provision in the Nazi penal code.

ORGANIZATION SECTION

PROCEEDINGS OF THE CHICAGO SESSION

MINUTES OF THE NINETY-FOURTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD IN CHICAGO, JUNE 12-16, 1944

MINUTES OF THE SECTIONS

SECTION ON PRACTICE OF MEDICINE

WEDNESDAY, JUNE 14—MORNING

The meeting was called to order at 9:05 by Dr. Roy W. Scott, Cleveland, in the absence of Dr. Burrell O. Raulston, Los Angeles, the chairman of the section.

Lieut. Col. Thomas H. Sternberg and Col. Thomas B. Turner, M. C., A. U. S., presented a paper on "The Treatment of Sulfonamide Resistant Gonorrhea with Penicillin Sodium." Discussed by Lieut. Col. Irving S. Wright, M. C., A. U. S.; Dr. John F. Mahoney, U. S. P. H. S.; Lieut. Col. Thomas H. Sternberg, M. C., A. U. S.; Dr. Alfred Cohn, New York, and Col. Thomas B. Turner, M. C., A. U. S.

Dr. Frank N. Allan, Boston, read a paper on "The Clinical Management of Weakness and Fatigue." Discussed by Drs. Walter C. Alvarez, Rochester, Minn.; Benjamin F. Sieve, Boston; Walter Freeman, Washington, D. C., and Frank N. Allan, Boston.

Dr. Louis Hamman, Baltimore, read the Frank Billings Lecture, on "Mediastinal Emphysema."

Drs. Hobart A. Reimann, Alison H. Price and John H. Hodges, Philadelphia, presented a paper on "Epidemic Diarrhea, Nausea and Vomiting of Unknown Cause." Discussed by Drs. H. J. Shaughnessy, Chicago; Ruth E. Tayler, Chicago; J. A. Garcia, Corpus Christi, Texas; D. J. Sandweiss, Detroit, and Hobart A. Reimann, Philadelphia.

Dr. Howard F. Root, Boston, read a paper on "Treatment of Diabetic Coma." Discussed by Drs. Edward S. Dillon, Philadelphia; Rollin T. Woodyatt, Chicago; Samuel Soskin, Chicago; Fred M. Allen, New York, and Howard F. Root, Boston.

THURSDAY, JUNE 15—MORNING

The following officers were elected: chairman, Dr. W. D. Stroud, Philadelphia; vice chairman, Dr. W. O. Thompson, Chicago; secretary, Dr. Cecil J. Watson, Minneapolis; delegate, Dr. F. M. Smith, Iowa City; alternate, Dr. Charles T. Stone, Galveston, Texas; executive committee: Dr. Roy W. Scott, Cleveland; Dr. Burrell O. Raulston, Los Angeles, and Dr. W. D. Stroud, Philadelphia; member of the American Board of Internal Medicine, Dr. B. O. Raulston, Los Angeles.

Col. Leonard G. Rowntree, M. C., A. U. S., read a paper on "The Health Needs of the Nation as Reflected by the Examination of Thirteen Million Registrants." Discussed by Dr. Raymond W. Waggoner, Ann Arbor, Mich.; Gen. George Lull, M. C., A. U. S., and Drs. R. L. Sensenich, South Bend, Ind.; Walter Freeman, Washington, D. C., and Herbert F. Robb, Belleville, Mich.

Dr. Robert L. Levy, New York, Brig. Gen. Charles C. Hillman, U. S. Army, and Drs. William D. Stroud, Philadelphia, and Paul D. White, Boston, presented a paper on "Transient Hypertension: Observations Based on Analysis of the Medical Records of 22,741 Officers of the United States Army."

Dr. Reginald H. Smithwick, Boston, read a paper on "The Results of Radical Sympathectomy in Hypertension."

Dr. Walter Kempner, Durham, N. C., read a paper on "Treatment of Kidney Disease and Hypertensive Vascular Disease with Rice Diet."

These three papers were discussed by Drs. E. A. Hines Jr., Rochester, Minn.; Geza de Takats, Chicago; Roy W. Scott, Cleveland; I. H. Page, Indianapolis; Frederick M. Hanes, Durham, N. C.; N. S. Davis III, Chicago; William S. Collens, Brooklyn; Walter Kempner, Durham, N. C.; Robert L. Levy, New York, and Reginald H. Smithwick, Boston.

Lieut. Col. Harry M. Kirschbaum, M. C., A. U. S., read a paper on "Heart Sounds: Recording of Effects of Anoxia."

FRIDAY, JUNE 16—MORNING

A joint meeting was held with the Section on Experimental Medicine and Therapeutics.

Col. W. Paul Holbrook, M. C., A. U. S., read a paper on "Acute Rheumatic Fever in the Army Air Forces."

Comdr. Alvin F. Coburn (MC), U.S.N.R., read a paper on "The Application of Sulfadiazine Prophylaxis in the Prevention of Bacterial Infections of the Respiratory Tract."

These two papers were discussed by Dr. T. Duckett Jones, Boston; Capt. Richard G. Hodges, M. C., A. U. S.,; Col. W. Paul Holbrook, M. C., A. U. S., and Comdr. Alvin F. Coburn (MC), U.S.N.R.

Col. Julien E. Benjamin, M. C., A. U. S., and Major Ralph C. Hoyt, M. C., A. U. S., presented a paper on "Postvaccinal (Yellow Fever) Hepatitis: Convalescent Stage."

Dr. John R. Paul, New Haven, Conn., and Capt. W. P. Havens Jr., M. C., A. U. S., presented a paper on "Infectious Hepatitis in the Mediterranean Area."

These two papers were discussed by Dr. Joseph Stokes Jr., Philadelphia; Major Joseph Bank, El Paso, Texas; Col. Julien E. Benjamin, M. C., A. U. S., and Dr. John R. Paul, New Haven, Conn.

The following papers were read in a symposium on "Vitamins, Amino Acids and Enzymes," followed by a panel discussion, of which Morris Fishbein, Chicago, was Moderator:

Dr. William M. Govier, Winston-Salem, N. C.: "The Rationale for the Use of Vitamins in the Therapy of Shock and Anoxia."

Dr. Elmer L. Sevringhaus, Madison, Wis.: "Adult Needs of Vitamins A and C."

Dr. A. J. Carlson, Chicago: "The Dilemma of Subclinical Vitamin Deficiencies."

Dr. Tom D. Spies, Birmingham, Ala.: "Vitamins in the Practice of Medicine."

SECTION ON SURGERY, GENERAL AND ABDOMINAL

WEDNESDAY, JUNE 14—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr. Frederick A. Coller, Ann Arbor, Mich.

Dr. George D. Lilly, Miami, Fla., read a paper on "Alcoholic Injection of the Lumbar Sympathetic Trunk in Cases of Peripheral Vascular Insufficiency When Surgical Sympathectomy Is Contraindicated." Discussed by Dr. Arthur W. Allen, Boston.

Dr. Keith S. Grimson, Durham, N. C., read a paper on "The Effect of Activity, Rest, Natural Sleep, Sodium Amytal, Pentothal Sodium, Chloralose and Ether on Experimental Neurogenic

Hypertension." Discussed by Drs. Geza de Takats, Chicago, and Emmet B. Bay, Chicago.

Dr. I. A. Bigger, Richmond, Va., read a paper on "The Management of Traumatic Aneurysms and Arteriovenous Fistulas." Discussed by Drs. John DeJ. Pemberton, Rochester, Minn., and Waller Overton Bullock, Lexington, Ky.

Dr. Geza de Takats, Chicago, read a paper on "The Causalgic State in Peace and War." Discussed by Dr. Warren H. Cole, Chicago.

Dr. Arthur W. Allen, Boston, read a paper on "Femoral Vein Interruption for the Treatment of Phlebothrombosis and Pulmonary Embolism." Discussed by Dr. Alton Ochsner, New Orleans.

Drs. John H. Garlock and Burrill B. Crohn, New York, presented a paper on "An Appraisal of the Results of Surgery in the Treatment of Regional Ileitis." Discussed by Drs. Henry W. Cave, New York; Claude F. Dixon, Rochester, Minn., and Burrill B. Crohn, New York.

Dr. Rawley M. Penick Jr., New Orleans, read a paper on "Problems in the Surgical Treatment of Congenital Megacolon." Discussed by Drs. J. Arnold Bargen, Rochester, Minn.; Reginald H. Smithwick, Boston; K. S. Grimson, Durham, N. C., and Arthur W. Allen, Boston.

Thursday, June 15—Afternoon

The following officers were elected: chairman, Lieut. Col. Daniel C. Elkin, M. C., A. U. S.; vice chairman, Dr. William A. Andrews, Johnson City, N. Y.; secretary, Dr. Alton Ochsner, New Orleans; delegate, Col. Grover Penberthy, M. C., A. U. S.; alternate, Dr. I. A. Bigger, Richmond, Va.; member of board of governors, American College of Surgeons, Dr. Walter G. Phippen, Salem, Mass., and Dr. Charles S. Kennedy, Detroit; representatives on Committee on Industrial Health of the Section on Surgery: chairman, Dr. S. Perry Rogers, Chicago; Dr. William L. Estes, Bethlehem, Pa.; Dr. Henry C. Marble, Boston, and Dr. Thomas M. Joyce, Portland, Ore., and Dr. John Huber Wagner, Pittsburgh; representative to Scientific Exhibit, Dr. Owen H. Wagensteen, Minneapolis; executive committee: Dr. Arthur W. Allen, Boston; Dr. Frederick A. Coller, Ann Arbor, Mich., and Lieut. Col. Daniel C. Elkin, M. C., A. U. S.

Dr. Carl Bearse, Boston, read a paper on "Gallstones: The Time Factor in the Development of Complications." Discussed by Drs. I. S. Otis, Meriden, Conn.; John M. Fallon, Worcester, Mass., and Otto De Myth, Vancouver, B. C.

Dr. Frederick A. Coller, Ann Arbor, Mich., read the chairman's address, entitled "Blood Loss During Operation."

Drs. Warren H. Cole, Danely P. Slaughter and Lewis J. Rossiter, Chicago, presented a paper on "Potential Dangers of Nontoxic Nodular Goiter." Discussed by Drs. Frank H. Lahey, Boston; George M. Curtis, Columbus, Ohio; Brien T. King, Seattle, and Danely P. Slaughter, Chicago.

Dr. Forrest O. J. Young, Rochester, N. Y., read a paper on "The 'Suture' of Wounds by Plasma-Thrombin Adhesion." Discussed by Drs. R. T. Tidrick, Iowa City; E. D. Warner, Iowa City, and W. J. Carson, Milwaukee.

Drs. Frank E. Adair and Norman Treves, New York, Lieut. Comdr. Joseph H. Farrow (MC), U.S.N.R., and Isabelle M. Scharnagel, New York, presented a paper entitled "A Report of the Clinical Effects of Surgical and X-Ray Castration in Mammary Cancer." Discussed by Drs. Lawrence A. Pomeroy, Cleveland; J. Shelton Horsley, Richmond, Va.; W. E. Chamberlain, Philadelphia, and Norman Treves, New York.

Drs. Willard H. Parsons and John C. Henthorne, Vicksburg, Miss., and Major R. Lee Clark Jr., M. C., A. U. S., presented a paper on "Plasma Cell Mastitis." Discussed by Drs. Warren H. Cole, Chicago; R. L. Sanders, Memphis, Tenn.; Frank E. Adair, New York, and John C. Henthorne, Vicksburg, Miss.

Friday, June 16—Afternoon

A joint meeting was held with the Section on Gastro-Enterology and Proctology. The proceedings are reported in the minutes of that section.

SECTION ON OBSTETRICS AND GYNECOLOGY

Wednesday, June 14—Morning

The meeting was called to order at 9 o'clock by the chairman, Dr. Louis E. Phaneuf, Boston.

Dr. Richard Torpin, Augusta, Ga., read a paper on "The Influence of the Placental Site on Fetal Presentation."

Drs. Louis R. Limarzi and John R. Wolff, Chicago, presented a paper on "The Anemias of Pregnancy: A Clinical and Hematologic Study Based on the Correlation of the Peripheral Blood and Bone Marrow Findings." Discussed by Drs. William J. Dieckmann, Chicago; Howard L. Alt, Evanston, Ill.; Frank H. Bethell, Ann Arbor, Mich., and Louis R. Limarzi, Chicago.

Drs. William F. Mengert, Dallas, Texas, and Lieut. (jg) Lester D. Odell (MC), U.S.N.R., presented a paper on "The Overweight Obstetric Patient." Discussed by Drs. Fred H. Falls, Chicago; Newlin F. Paxson, Philadelphia, and William F. Mengert, Dallas, Texas.

Dr. Priscilla White, Boston, read a paper on "Diabetes in Pregnancy." Discussed by Drs. Henry Dolger, New York; William J. Dieckmann, Chicago; R. Carrasco-Formiguera, Puebla, Mexico, and Priscilla White, Boston.

Drs. Rupert E. Arnell, New Orleans, and Daniel W. Goldman, Shreveport, La., presented a paper on "Protein Deficiencies in Pregnancy." Discussed by Drs. Philip F. Williams, Philadelphia; Wilfred N. Sisk, Asheville, N. C., and Rupert E. Arnell, New Orleans.

Dr. Curtis J. Lund, Minneapolis, read a paper on "Nutrition in Pregnancy." Discussed by Dr. Fred L. Adair, Chicago.

The chairman appointed Drs. George W. Kosmak, New York, and Marvin Pierce Rucker, Richmond, Va., to fill vacancies on the executive committee.

Thursday, June 15—Morning

The following officers were elected: chairman, Dr. Philip F. Williams, Philadelphia; vice chairman, Dr. Francis Bayard Carter, Durham, N. C.; secretary, Dr. William F. Mengert, Dallas, Texas; executive committee: Dr. Walter T. Dannreuther, New York; Dr. Louis E. Phaneuf, Boston; Dr. Philip F. Williams, Philadelphia; members of board of governors, American College of Surgeons: Dr. Emil Novak, Baltimore; Dr. Thomas K. Brown, St. Louis, and Dr. Alice Maxwell, San Francisco; representatives to American Committee of Maternal Welfare: Dr. R. D. Mussey, Rochester, Minn.; Dr. W. B. Thompson, Los Angeles, and Dr. Oren Moore, Charlotte, N. C.; representatives on American Board of Obstetrics and Gynecology: Dr. Francis Baird Carter, Durham, N. C.; Dr. Louis E. Phaneuf, Boston, and Dr. Ludwig A. Emge, San Francisco.

A report of the Committee on the Health of Women in Industry was presented by Dr. H. Close Hesseltine, Chicago, chairman.

Drs. Catharine Macfarlane and Margaret C. Sturgis, Philadelphia, presented a paper on "The Value of Periodic Pelvic Examination in the Control of Cancer of the Uterus." Discussed by Drs. Norman Treves, New York, and Augusta Webster, Chicago.

Drs. Lewis C. Scheffey and David M. Farell, Philadelphia, presented a paper on "The Role of Injudicious Hormonal Therapy in the Delayed Diagnosis of Uterine Cancer." Discussed by Drs. Edward D. Allen, Chicago; Joe Vincent Meigs, Boston; James A. Corscaden, New York; Karl H. Martzloff, Portland, Ore.; Richard W. TeLinde, Baltimore, and Karl J. Karnacky, Houston, Texas.

Dr. Clyde L. Randall, Buffalo, read a paper on "Recognition of Women Predisposed to Adenocarcinoma of the Uterus." Discussed by Drs. Herbert E. Schmitz, Chicago, and Louis C. Kress, Albany, N. Y.

Dr. James A. Corscaden, New York, read a paper on "Evaluation of Radiation in the Treatment of Carcinoma of the Corpus." Discussed by Drs. Lewis C. Scheffey, Philadelphia; H. E. Schmitz, Chicago, and Clyde L. Randall, Buffalo.

Dr. Richard W. TeLinde, Baltimore, read a paper on "The Treatment of Uterine Prolapse and Associated Conditions." Discussed by Drs. George H. Gardner, Chicago; Roland S. Cron, Milwaukee; J. E. Cannaday, Charleston, W. Va.; John M. Fallon, Worcester, Mass.; Channing W. Barrett, Chicago; R. C. Austin, Dayton, Ohio; C. Gordon Johnson, New Orleans, and K. M. Martzloff, Portland, Ore.

Dr. Louis E. Phaneuf, Boston, read a paper on "The Progress of Gynecology During the Last Quarter of a Century."

FRIDAY, JUNE 16—MORNING

A joint meeting was held with the Section on Urology.

Dr. E. Granville Crabtree, Boston, read a paper on "Use of the Sulfonamide Drugs in Pyelonephritis in Pregnancy." Discussed by Drs. Jacob F. Greenhill, Chicago; Goodrich C. Schauffler, Portland, Ore.; Budd C. Corbus, Chicago, and A. J. Kobak, Chicago.

Dr. J. M. Hundley Jr., Baltimore, read a paper on "Influence of Gynecologic Disorders on Urinary System." Discussed by Drs. Nelse F. Ockerblad, Kansas City, Mo., and Vincent J. O'Conor, Chicago.

Dr. George H. Gardner, Chicago, read a paper on "Infertility: Our Responsibilities in Diagnosis." Discussed by Drs. Robert M. Grier, Evanston, Ill.; Ralph A. Reis, Chicago; V. D. Lespinasse, Chicago; Henry K. Sangree, Philadelphia; A. R. Abarbanel, Washington, D. C.; C. J. Stamm, Philadelphia, and Jacob P. Greenhill, Chicago.

Drs. Herman L. Kretschmer and Noble Sproat Heaney, Chicago, presented a paper on "Pyelitis of Pregnancy: Foci of Infection in Prophylaxis."

Dr. A. I. Folsom, Dallas, read a paper on "The Female Urethra."

These two papers were discussed by Drs. Vincent J. O'Conor, Chicago; V. D. Lespinasse, Chicago; H. W. Howard, Portland, Ore., and Lieut. Col. Harry M. Kerschbaum, M. C., A. U. S.

Lieut. Col. L. W. Riba, M. C., A. U. S., read a paper on "Sulfonamide Resistant Gonorrhea Treated with Penicillin: Report of 450 Cases."

SECTION ON OPHTHALMOLOGY

WEDNESDAY, JUNE 14—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr. Conrad Berens, New York.

Dr. Conrad Berens, New York, read the chairman's address, entitled "The Making of an Ophthalmologist."

Dr. William L. Benedict, Rochester, Minn., the Guest of Honor, read a paper entitled "Diagnosis of Orbital Tumors."

Drs. Hayes Martin and Algernon B. Reese, New York, presented a "Progress Report on the Treatment of Bilateral Retinoblastoma by Surgery and Irradiation with the Purpose of Conserving Vision in One Eye." Discussed by Drs. A. F. M. de Roetth, Spokane, Wash.; Richard C. Gamble, Chicago, and Algernon B. Reese, New York.

Dr. C. L. Pannabecker, Ann Arbor, Mich., read a paper on "Neuroparalytic Keratitis: Ocular Complications Following Operations for Trigeminal Neuralgia." Discussed by Drs. A. D. Ruedemann, Cleveland; Major J. M. Masters, M. C., A. U. S., and C. L. Pannabecker, Ann Arbor, Mich.

Drs. Herman M. Burian and Kenneth N. Ogle, Hanover, N. H., presented a paper on "Meridional Aniseikonia at Oblique Axes." Discussed by Drs. Lawrence T. Post, St. Louis; Ernest A. W. Sheppard, Washington, D. C., and Hermann M. Burian, Hanover, N. H.

THURSDAY, JUNE 15—AFTERNOON

Executive Session

It was voted that the minutes of the last executive meeting be approved as printed in the transactions.

The Howe Research Medal was awarded posthumously to Dr. Sanford R. Gifford.

Dr. R. J. Masters, secretary, reported that there was no report from the Committee on Visual Economics.

Dr. Lawrence T. Post, St. Louis, read the report of the American Committee on Optics and Visual Physiology, which was accepted.

Dr. Masters reported that the Committee on the Awarding of the Knapp Medal recommended that the Knapp Medal be not awarded this year. The report was accepted.

The following committee for awarding the Knapp Medal for 1945 was elected from the floor: Dr. A. Ray Irvine, Los Angeles; Dr. F. A. Davis, Madison, Wis., and Frederick Herman Verhoeff, Boston.

Dr. S. Judd Beach, Portland, Maine, read the report of the American Board of Ophthalmology, which was accepted.

Dr. J. S. Friedenwald, Baltimore, presented a report for the Committee on National Museum of Ophthalmic Pathology. The report was accepted.

Dr. Masters presented the report of the Committee on Scientific Exhibit, which was accepted, and a vote of thanks extended Dr. Georgiana D. Theobald.

Dr. Robert von der Heydt, Chicago, reported that there had been no objects of interest contributed to the Museum of Ophthalmic History during the past two years.

Dr. Walter B. Lancaster, Hanover, N. H., read the report of the Committee on Orthoptics, which was accepted.

Dr. William L. Benedict, Rochester, Minn., reported that the Committee of the Student Health Association of the National Educational Association had been inactive during the past eighteen months, owing to several members entering military service.

Dr. Arthur J. Bedell, Albany, N. Y., reported as delegate of the section to the House of Delegates, and the report was accepted with thanks.

Dr. Parker Heath, Detroit, reported that the Committee on Ophthalmic Literature had been relatively inactive and recommended that the committee be continued. The report was accepted.

Dr. Albert C. Snell, Rochester, N. Y., read the report of the Committee on Industrial Ophthalmology. The report was accepted.

Dr. William L. Benedict, Rochester, Minn., in reporting as representative of the Council on Pan American Council, said that the Congress scheduled to be held in Montevideo in 1944 was canceled but that plans were proceeding for a congress in Montevideo in November 1945.

Dr. Parker Heath, Detroit, presented the report of the Knapp Testimonial Fund Committee. The report was accepted.

Dr. Lawrence T. Post, St. Louis, reported for Dr. Hayward Post, representative of the section to the Board of Governors of the College of Surgeons, that there had been no College of Surgeons meeting since his appointment.

Dr. Albert C. Snell, Rochester, N. Y., read the report of the executive committee as follows: The executive committee, in accord with a ruling by the Secretary of the American Medical Association, has continued to function in the interval between the last meeting of this section in June 1942 and this meeting. The following are the important acts of this committee: 1. The election of a permanent secretary. 2. The presentation of a number of papers as two symposiums on ophthalmologic subjects, which were published in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, since no transactions of the Section on Ophthalmology were published in 1943. The symposiums covered two general topics as follows: A. Ocular therapeutics: 1. Fever therapy. F. C. Cordes. 2. Chemotherapy. Parker Heath. 3. Epidemic keratoconjunctivitis (The Epidemiology of). A. J. Bedell. B. Ophthalmology in the War Years: 1. Ocular Complications of Head Injuries. D. J. Lyle. 2. Eye Problems Resulting from the Stepped Up War Program in Industry. Hedwig Kuhn. 3. Eye Injuries. C. P. Clark. 4. Intraocular Foreign Bodies. Edward Stieren. 3. Appointment of vacancies in various committees. 4. The arrangement of the program for the present meeting, for the success of which we are largely indebted to our efficient secretary, Dr. Robert Masters. The report was accepted.

The executive committee recommended that A. The following committees be continued unchanged: (*a*) Committee on Visual Economics. (*b*) Committee on National Museum of Ophthalmic

Pathology (Joint). (*c*) Committee on Scientific Exhibits from Section. (*d*) Committee on Museum of Ophthalmic History. (*e*) Committee on Ophthalmic Literature. (*f*) Committee on Industrial Ophthalmology. (*g*) Knapp Testimonial Fund Committee. (*h*) Representative to Council, Pan American Congress. (*i*) Representative of Section to Board of Governors, College of Surgeons. B. That the following committees be continued with appointments for each respective committee: (*a*) American Committee on Optics and Visual Physiology. Dr. Walter B. Lancaster to replace Dr. Gifford. Dr. Thomas Allen to be appointed. (*b*) Orthoptic Council. Dr. Truman Boyer to replace Maynard Wheeler. (*c*) American Board of Ophthalmology. Dr. Everett L. Goar, for four years, to replace Dr. S. Judd Beach. The report was accepted.

The executive committee recommended that the Council on Industrial Health be authorized to continue the work of the special committee on research and reports and that this committee be given sufficient financial support for the employment of adequate personnel in the headquarters office to promote the activities of this committee. The recommendation was accepted.

The executive committee recommended that the section appoint a committee of five on optical dispensing, this committee to undertake a thorough study of all phases of the dispensing of optical services and supplies, and that the American Medical Association be requested to appropriate a sum of $2,500 or as much thereof as may be necessary, that this committee may be able to employ adequate personnel to carry out the purposes of this committee. The recommendation was accepted.

The executive committee recommended that the project of testing and standardizing tonometers, sponsored by the Academy of Ophthalmology and Otolaryngology, be approved and endorsed by the section. The recommendation was accepted.

The executive committee recommended that a committee of five on ophthalmic public relations be appointed. The recommendation was accepted.

The executive committee reported that a tentative resolution had been prepared by the executive committee concerning the relations of ophthalmology with optometry, which it would refer to the newly appointed Committee on Ophthalmic Public Relations.

The following officers were elected: chairman, Dr. Frederick C. Cordes, San Francisco; vice chairman, Dr. Grady E. Clay, Atlanta, Ga.; secretary, Dr. Robert J. Masters, Indianapolis; delegate, Dr. Arthur J. Bedell, Albany, N. Y.; alternate, Dr. A. D. Ruedemann, Cleveland.

Scientific Session

Dr. Peter C. Kronfeld, Chicago, read a paper entitled "In Search of Gonioscopic Correlates of Responsiveness to Miotics in Glaucoma." Discussed by Drs. H. Isabelle McGarry, Chicago; John M. McLean, New York; C. W. Ascher, Cincinnati, and Peter C. Kronfeld, Chicago.

Dr. Paul A. Chandler, Boston, read a paper on "Choice of Operation in Glaucoma." Discussed by Drs. Edward C. Ellett, Memphis, Tenn.; Harry S. Gradle, Chicago; John M. McLean, New York, and Paul A. Chandler, Boston.

Dr. Kenneth C. Swan, Iowa City, read a paper on "Dibutoline: A New Mydriatic and Cycloplegic Drug." Discussed by Drs. S. Judd Beach, Portland, Maine; Jonas S. Friedenwald, Baltimore; William H. Crisp, Denver, and Kenneth C. Swan, Iowa City.

Dr. Ralph O. Rychener, Memphis, Tenn., read a paper on "The Management of Traumatic Hyphemia." Discussed by Drs. F. Bruce Fralick, Ann Arbor, Mich.; Hugo L. Bair, Rochester, Minn.; William B. Clark, New Orleans; Paul A. Chandler, Boston, and Ralph O. Rychener, Memphis, Tenn.

Dr. Harvey E. Thorpe, Pittsburgh, read a paper on "Nonmagnetic Intraocular Foreign Bodies." Discussed by Drs. Edmund B. Spaeth, Philadelphia; Major Meyer H. Riwchun, M. C., A. U. S., and Harvey E. Thorpe, Pittsburgh.

FRIDAY, JUNE 16—MORNING

A joint meeting was held with the Section on Laryngology, Otology and Rhinology.

The following papers were read as a symposium on "The Treatment of Chronic Dacryotystitis":

Dr. Harold Gifford Jr., Omaha: "Discussion of Dacryocystitis from the Point of View of the Ophthalmologist."

Dr. Laverne B. Spake, Kansas City, Kan.: "Treatment of Chronic Dacryocystitis from the Point of View of the Rhinologist."

These two papers were discussed by Drs. Charles T. Porter, Boston; Joseph I. Kemler, Baltimore; H. P. Mosher, Boston; Lawrence B. Spake, Kansas City, Kan., and Harold Gifford Jr., Omaha.

The following papers were read as a symposium on "The Use of Penicillin in the Treatment of Diseases of the Eye, Ear, Nose and Throat":

Lieut. Col. John E. L. Keyes, M. C., A. U. S.: "Use of Penicillin in Diseases of the Eye."

Capt. C. A. Swanson (MC), U.S.N., and Lieut. D. C. Baker (MC), U.S.N.R.: "The Use of Penicillin in Diseases of the Ear."

Capt. F. J. Putney, M. C., A. U. S.: "The Use of Penicillin in Diseases of Nose and Throat."

These three papers were discussed by Major Elmer A. Vorisek, M. C., A. U. S.; Major Walter J. Aagesen, M. C., A. U. S.; Comdr. E. E. Koebbe, U.S.N.R., U. S. Naval Hospital, Great Lakes, Ill.; Capt. Robert Henner, Barksdale Field, Louisiana; Capt. F. J. Putney, M. C., A. U. S.; Capt. C. A. Swanson (MC), U.S.N., and Lieut. Col. John E. L. Keyes, M. C., A. U. S.

SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY

WEDNESDAY, JUNE 14—MORNING

The meeting was called to order at 9 o'clock by the chairman, Dr. Claude C. Cody, Houston, Texas.

Drs. Fred Z. Havens and William C. Thornell, Rochester, Minn., presented a paper on "Malignant Tumors of the Nasal Cavity." Discussed by Drs. Thomas E. Carmody, Denver; Thomas C. Galloway, Evanston, Ill., and Fred Z. Havens, Rochester, Minn.

Dr. Barney M. Kully, Los Angeles, read a paper on "The Use and Abuse of Nasal Vasoconstrictors." Discussed by Drs. Lawrence R. Boies, Minneapolis; O. E. Van Alyea, Chicago, and Barney M. Kully, Los Angeles.

Dr. Harry L. Baum, Denver, read a paper on "Treatment of Acute Laryngotracheobronchitis." Discussed by Drs. T. Roy Gittins, Sioux City, Iowa; Paul H. Holinger, Chicago; Otto Jason Dixon, Kansas City, Mo.; Fred Z. Havens, Rochester, Minn.; Lieut. Comdr. J. J. Potter, Great Lakes Naval Training Station, and Harry L. Baum, Denver.

Dr. William H. Johnston, Santa Barbara, Calif., read a paper on "Nasal Sinus Disease in Children; Its Diagnosis and Treatment." Discussed by Drs. Glenn J. Greenwood, Chicago; James M. Robb, Detroit; Burt R. Shurly, Detroit; Thomas E. Carmody, Denver; A. C. Hilding, Duluth, Minn.; O. E. Van Alyea, Chicago, and William H. Johnston, Santa Barbara, Calif.

Dr. Horace J. Williams, Philadelphia, read a paper on "The Use of Skin Graft in Tympanomastoidectomy." Discussed by Drs. John F. Delph, Chicago; William E. Grove, Milwaukee; Frederick Leaver Stauffer, Salt Lake City, and Horace J. Williams, Philadelphia.

THURSDAY, JUNE 15—MORNING

Executive Session

On motion by Dr. Gordon F. Harkness, Davenport, Iowa, seconded by Thomas E. Carmody, Denver, Edward J. Ryan, D.D.S., Evanston, Ill., was nominated for Associate Fellowship.

Dr. Louis H. Clerf, secretary, reported progress for the Advisory Committee of Council on Industrial Health, and the committee was instructed to continue its work.

Dr. Clerf reported progress for the Committee on Lye Legislation, and the committee was continued.

Dr. Claude C. Cody, the chairman, appointed Dr. W. E. Grove of Milwaukee as a candidate for the Board of Governors on the American College of Surgeons.

Dr. Clerf read a letter from the Argentine Society of Bronchoesophagoscopy, and the chairman instructed the incoming secretary to reply.

The following officers were elected: chairman, Dr. Louis H. Clerf, Philadelphia; vice chairman, Dr. Henry B. Orton, Newark, N. J.; secretary, Dr. Fletcher W. Woodward, Charlottesville, Va.; executive committee: Dr. Gordon F. Harkness, Davenport, Iowa; Dr. Claude C. Cody, Houston, Texas, and Dr. Louis H. Clerf, Philadelphia; delegate, Dr. Burt R. Shurly, Detroit; alternate, Dr. Gordon F. Harkness, Davenport, Iowa.

Dr. LeRoy A. Schall, Boston, and Dr. John J. Shea, Memphis, Tenn., were appointed to the American Board of Otolaryngology.

A new gavel was presented to the section, and it was voted that the cost of the gavel be defrayed by the section.

Scientific Session

Dr. Claude C. Cody, Houston, Texas, read the chairman's address, entitled "Vitamin Therapy in Otolaryngology."

Dr. Marvin F. Jones, New York, read a paper on "Disturbed Vestibular Function: The Causes and Cures." Discussed by Drs. Lyle M. Sellers, Dallas, Texas; George E. Shambaugh Jr., Chicago, and Marvin F. Jones, New York.

Dr. Oram R. Kline, Camden, N. J., read a paper on "The Importance of Pathology of the Nasopharynx to the Otolaryngologist." Discussed by Drs. C. H. McCaskey, Indianapolis; Walter H. Theobald, Chicago; Barney M. Kully, Los Angeles, and Oram R. Kline, Camden, N. J.

Dr. Forrest W. Merica, Lakewood, Ohio, read a paper on "The Local Use of Sulfonamides in the Surgical Treatment in Diseases of the Ear."

Dr. Edward J. Whalen, Hartford, Conn., read a paper on "Sulfonamides in the Treatment of Nasal Sinus Disease."

These two papers were discussed by Drs. Ralph A. Fenton, Portland, Ore.; J. R. Lindsay, Chicago; M. M. Cullom, Nashville, Tenn.; H. W. Angell, Charleston, W. Va.; Claude C. Cody, Houston, Texas; Forrest W. Merica, Lakewood, Ohio, and Edward J. Whalen, Hartford, Conn.

FRIDAY, JUNE 16—MORNING

A joint meeting was held with the Section on Ophthalmology. The proceedings are reported in the minutes of that section.

SECTION ON PEDIATRICS

WEDNESDAY, JUNE 14—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr. Hugh L. Dwyer, Kansas City, Mo.

Drs. Wallace S. Sako and W. L. Treuting, New Orleans, David B. Witt, Surgeon (R), U. S. P. H. S., and S. J. Nichamin, Surgeon (R), U. S. P. H. S., presented a paper on "The Early Immunization Against Pertussis." Discussed by Drs. Louis W. Sauer, Evanston, Ill., and Wallace S. Sako, New Orleans.

Dr. M. J. Shapiro, Minneapolis, read a paper on "The Preoperative Diagnosis of Patent Ductus Arteriosus." Discussed by Drs. Leo G. Rigler, Minneapolis; Harry Vesell, New York, and M. J. Shapiro, Minneapolis.

Dr. Roger L. J. Kennedy, Rochester, Minn., read a paper on "Precocious Skeletal Development in Children." Discussed by Dr. John R. Vonachen, Peoria, Ill.

Dr. Oscar Reiss, Los Angeles, read a paper on "Mental Hygiene Aspects of Pediatrics." Discussed by Drs. Bert I. Beverly, Chicago; Ernst Wolff, San Francisco, and Oscar Reiss, Los Angeles.

Dr. J. Albert Key, St. Louis, read a paper on "Indications For and Evaluation Of Measures Used in the Treatment of Poliomyelitis." Discussed by Drs. Miland E. Knapp, Minneapolis; John A. Toomey, Cleveland, and J. Albert Key, St. Louis.

Major Ralph H. Kunstadter, M. C., A. U. S., and Major Robert C. Pendergrass, M. C., A. U. S., presented a paper on "Primary Coccidioidomycosis." Discussed by Major William H. Wood Jr., M. C., A. U. S.

On invitation of the chairman, Dr. Isaac Abt, Chicago, addressed the section.

THURSDAY, JUNE 15—AFTERNOON

The following papers were read as a symposium on "Abdominal Pain in Children":

Dr. Joseph Brennemann, Reading, Vt.: "The Pediatric View." Discussed by Drs. M. G. Peterman, Milwaukee; Joseph Golomb, New York, and Joseph Brennemann, Reading, Vt.

Dr. Bret Ratner, New York: "The Allergic View." Discussed by Drs. J. Victor Greenebaum, Cincinnati; W. Ambrose McGee, Richmond, Va., and Bret Ratner, New York.

Dr. Meredith F. Campbell, New York: "The Urologic View."

Dr. Alfred A. Strauss, Chicago: "The Surgical View."

These two papers were discussed by Drs. Herbert E. Coe, Seattle, and Ernst Wolff, San Francisco.

Dr. T. L. Terry, Boston, read a paper on "Ocular Maldevelopment in Extremely Premature Infants." Discussed by Drs. H. N. Sanford, Chicago; E. V. L. Brown, Chicago; A. J. Strich, Chicago, and T. L. Terry, Boston.

Dr. Victor Ross, New York, read a paper on "Preparation and Immunizing Properties of Protamine-Toxoid (Diphtheria)." Discussed by Dr. Ernest L. Stebbins, New York.

FRIDAY, JUNE 16—AFTERNOON

The following officers were elected: chairman, Dr. John Aikman, Rochester, N. Y.; vice chairman, Dr. Henry G. Poncher, Chicago; secretary, Dr. Gilbert J. Levy, Memphis, Tenn.; delegate, Dr. William Weston, Columbia, S. C.; alternate, Dr. Julius H. Hess, Chicago; executive committee: Dr. Philip M. Stimson, New York; Dr. Hugh L. Dwyer, Kansas City, Mo., and Dr. John Aikman, Rochester, N. Y.; representative to Scientific Assembly, Dr. W. Ambrose McGee, Richmond, Va.

The following papers were read as a symposium on "Rheumatic Fever":

Dr. May G. Wilson, New York: "Recurrence Rates in Rheumatic Fever."

Dr. T. Duckett Jones, Boston: "Diagnosis of Rheumatic Fever."

Dr. David D. Rutstein, New York: "The Role of the Cardiac Clinic in the Rheumatic Fever Program."

Major A. C. H. van Ravenswaay, M. C., A. U. S.: "Geographic Factors in Acute Rheumatic Fever."

Dr. Caroline Bedell Thomas, Baltimore: "The Prevention of Recurrences in Rheumatic Fever Subjects."

These five papers were discussed by Drs. John R. Paul, New Haven, Conn.; Col. W. Paul Holbrook, M. C., A. U. S.; Drs. Stanley Gibson, Chicago; J. W. Scott, Lexington, Ky.; J. D. Keith, Nova Scotia; Paul F. Dwan, Minneapolis; May G. Wilson, New York; T. Duckett Jones, Boston; David D. Rutstein, New York; Major A. C. H. van Ravenswaay, M. C., A. U. S., and Dr. Caroline Bedell Thomas, Baltimore.

SECTION ON EXPERIMENTAL MEDICINE AND THERAPEUTICS

WEDNESDAY, JUNE 14—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr. Tinsley R. Harrison, Dallas, Texas.

Drs. O. H. Robertson and Morton Hamburger Jr., Chicago, Capt. Clayton G. Loosli, M. C., A. U. S., Dr. Theodore T. Puck, Chicago, Lieut. Henry M. Lemon, M. C., A. U. S., and Dr. Henry Wise, Camp Carson, Colorado, presented a paper on "A Study of the Nature and Control of Air Borne Infection in Army Camps." Discussed by Drs. Edward Bigg, Evanston, Ill.; C. H. Rammelkamp, Fort Bragg, North Carolina; Francis G. Blake, New Haven, Conn., and Truman S. Potter, Chicago.

Dr. Lawrence W. Smith, Philadelphia, read a paper on "Wound Healing: An Experimental Study of Water Soluble

Chlorophyll Derivatives in Conjunction with Various Antibacterial Agents." Discussed by Drs. Conrad R. Lam, Detroit; Lawrence W. Smith, Philadelphia, and Benjamin Gruskin, Chicago.

Drs. David Adlersberg and Henry Dolger, New York, presented a paper on "Insulin Mixtures in the Treatment of Diabetes: Variable versus Fixed Ratios of Insulin and Protamine Zinc Insulin." Discussed by Dr. Howard F. Root, Boston.

Dr. R. A. Woodbury, Augusta, Ga., and Lieut. P. H. Fried, M. C., A. U. S., presented a paper on "Influence of Neostigmine on Eclamptic Patients and Cholinesterase Activity of Normal and Preeclamptic Human Placentas." Discussed by Drs. A. R. Abarbanel, Washington, D. C.; J. Isfred Hofbauer, Cincinnati, and R. A. Woodbury, Augusta, Ga.

Lieut. Comdr. David H. Rosenberg (MC), U.S.N.R., and Lieut. P. A. Arling (MC), U.S.N.R., presented a paper on "Penicillin in the Treatment of Meningitis." Discussed by Dr. Wallace E. Herrell, Rochester, Minn., and Lieut. Comdr. David H. Rosenberg (MC), U.S.N.R.

Drs. Robert H. Williams and Howard M. Clute, Boston, presented a paper on "Thiouracil in the Treatment of Thyrotoxicosis." Discussed by Drs. W. O. Thompson, Chicago; Elmer C. Bartels, Boston; Karl E. Paschkis, Philadelphia; Rulon W. Rawson, Boston, and Robert H. Williams, Boston.

Drs. M. G. Fredricks and F. W. Hoffbauer, Minneapolis, presented a paper on "A Study of Liver Function in Therapeutic Malaria." Discussed by Drs. L. W. Diggs, Memphis, Tenn., and M. G. Fredricks, Minneapolis.

Thursday, June 15—Afternoon

The following officers were elected: chairman, Dr. Edgar V. Allen, Rochester, Minn.; vice chairman, Dr. Carl A. Dragstedt, Chicago; secretary, Dr. Dwight L. Wilbur, San Francisco; delegate, Dr. Edgar V. Allen, Rochester, Minn.; alternate, Dr. C. M. Gruber, Philadelphia; in charge of exhibits, Dr. Robert W. Wilkins, Boston; executive committee: Dr. Wallace M. Yater, Washington, D. C.; Dr. Tinsley R. Harrison, Dallas, Texas, and Dr. Edgar V. Allen, Rochester, Minn.

The following papers were read as a symposium on "The Abuse of Rest in the Treatment of Disease":

Dr. Tinsley R. Harrison, Dallas, Texas: Chairman's address: "The Abuse of Rest as a Therapeutic Measure in Patients with Cardiovascular Disease."

Dr. Nicholson J. Eastman, Baltimore: "The Abuse of Rest in Obstetrics."

Dr. John H. Powers, Cooperstown, N. Y.: "The Abuse of Rest as a Means of Surgical Treatment: Early Postoperative Activity and Rehabilitation."

Dr. William Dock, Los Angeles: "The Evil Sequels of Complete Bed Rest."

Dr. Ralph K. Ghormley, Rochester, Minn.: "The Abuse of Rest as a Means of Treatment in Orthopedic Surgery."

Dr. Karl A. Menninger, Topeka, Kan.: "The Abuse of Rest as a Means of Treatment in Neuropsychiatry."

These six papers were discussed by Drs. J. Ross Veal, Washington, D. C.; Frank H. Krusen, Rochester, Minn.; H. Close Hesseltine, Chicago; Comdr. J. Murray Steelt, Bethesda, Md.; Drs. D. J. Leithauser, Detroit; E. V. Allen, Rochester, Minn.; Don C. Sutton, Chicago; Louis N. Katz, Chicago; Nicholson J. Eastman, Baltimore; John H. Powers, Cooperstown, N. Y.; William Dock, Los Angeles; Karl A. Menninger, Topeka, Kan., and Tinsley R. Harrison, Dallas, Texas.

Dr. Frank H. Krusen, Rochester, Minn., read a paper on "The Future of Physical Medicine, with Special Reference to the Recommendations of the Baruch Committee on Physical Medicine."

Friday, June 16—Afternoon

A joint meeting was held with the Section on Practice of Medicine. The proceedings are reported in the minutes of that section.

SECTION ON PATHOLOGY AND PHYSIOLOGY

Wednesday, June 14—Morning

The meeting was called to order at 9:10 by the chairman, Dr. Frank C. Mann, Rochester, Minn.

The following were nominated for the American Board of Pathology: Dr. Nathan Chandler Foote, New York, to succeed himself; Dr. Shields Warren, Boston, to succeed Dr. Howard T. Karsner, Cleveland.

The following papers were read as a symposium on "Traumatic Shock":

Dr. Harold D. Green, Cleveland: "Traumatic Ischemic Shock, with Observations on Effects of Environmental Temperature."

Dr. Virgil H. Moon, Philadelphia: "Analysis of Traumatic Shock."

Dr. Joseph C. Aub, Boston: "A Toxic Factor in Traumatic Shock."

These three papers were discussed by Drs. Henry N. Harkins, Baltimore; Frederick M. Allen, New York; Benjamin Jablons, New York; Harold D. Green, Cleveland; Virgil H. Moon, Philadelphia, and Joseph C. Aub, Boston.

Dr. Charles A. Janeway, Boston, read a paper on "The Use of Albumin in Shock and Hypoproteinemia and of Gamma Globulin in Measles."

Dr. Franc D. Ingraham, Boston, read a paper on "The Use of Products of Fibrinogen and Thrombin in Surgery."

These two papers were discussed by Dr. Orville T. Bailey, Boston.

Dr. J. P. Quigley, Cleveland, and Lieut. D. A. Brody, M. C., A. U. S., presented a paper on "Pyloric Sphincter Motility and Its Relation to Gastric Evacuation and Other Phenomena." Discussed by Drs. Frank C. Mann, Rochester, Minn., and J. P. Quigley, Cleveland.

Drs. G. E. Wakerlin, M. L. Goldberg and Clarence A. Johnson, Chicago, presented a paper on "Treatment of Experimental Renal Hypertension with Renal Extracts." Discussed by Drs. Benjamin Jablons, New York, and G. E. Wakerlin, Chicago.

Drs. A. C. Ivy and A. J. Atkinson, Chicago, presented a paper on "The Influence of Caffeine Containing Beverages on Gastric Secretion and the Peptic Ulcer Problem." Discussed by Drs. Albert F. R. Andresen, Brooklyn; Theodore J. Curphey, Garden City, N. Y.; Heinrich Necheles, Chicago, and A. C. Ivy, Chicago.

Thursday, June 15—Morning

Dr. Frank C. Mann, Rochester, Minn., read the chairman's address, entitled "Hypoglycemia and Restoration with Dextrose."

Drs. Harry J. Corper and Maurice L. Cohn, Denver, presented a paper on "The Use of Diasone for the Treatment of Tuberculosis."

Dr. Israel Davidsohn, Chicago, read a paper on "The Diagnosis of Fetal Erythroblastosis." Discussed by Drs. A. G. Foord, Pasadena, Calif., and Israel Davidsohn, Chicago.

The following were nominated for Associate Fellowship: Dr. Béla Halpert, Oklahoma City, and Dr. Howard B. Lewis, Ann Arbor, Mich.

Drs. Roy R. Kracke, William R. Platt and A. M. Oshlag, Emory University, Ga., presented a paper on "Hematologic Problems in Syphilis." Discussed by Drs. Israel Davidsohn, Chicago; Frank W. Hartman, Detroit, and William R. Platt, Emory University, Ga.

Dr. Italo F. Volini, Chicago, Capt. Robert O. Levitt, M. C., A. U. S., and Major Richard R. Martin, M. C., A. U. S., presented a paper on "Sudden Death Due to Intravenous Injection in Mercurial Diuresis." Discussed by Drs. John W. Scott, Lexington, Ky., and Italo F. Volini, Chicago.

Dr. Robert P. Morehead, Winston-Salem, N. C., read a paper on "Carcinoma in Young Persons." Discussed by Capt. J. Edward Berk, Philadelphia; Drs. F. L. Rector, Lansing, Mich., and Robert P. Morehead, Winston-Salem, N. C.

Dr. Tobias Weinberg, Baltimore, read a paper on "A Clinical and Pathologic Study of a Series of Renal Neoplasms."

A nominating committee was appointed consisting of Drs. J. P. Simonds, Chicago; Henry J. Corper, Denver, and G. E. Wakerlin, Chicago.

FRIDAY, JUNE 16—MORNING

The following officers were elected: chairman, Dr. Virgil H. Moon, Philadelphia; vice chairman, Dr. J. J. Moore, Chicago; secretary, Dr. Frank W. Hartman, Detroit; delegate, Dr. L. W. Larson, Bismarck, N. D.; alternate, Dr. H. J. Corper, Denver; executive committee: Dr. J. P. Simonds, Chicago; Dr. Frank C. Mann., Rochester, Minn., and Dr. Virgil H. Moon, Philadelphia.

On motion by Dr. Virgil H. Moon, Philadelphia, a rising vote of thanks was given to Dr. J. J. Moore, Chicago, for his many years of faithful service as secretary of the section.

Dr. Thomas Francis Jr., Ann Arbor, Mich., read a paper on "Physiologic Concepts of Virus Infections." Discussed by Dr. O. H. Robertson, Chicago.

Surgeon Capt. C. H. Best, Bytown, Ottawa, Ontario, Canada, read a paper on "Physiologic Contributions to War Medicine." Discussed by Drs. Virgil H. Moon, Philadelphia; Frederick M. Allen, New York; Everett I. Evans, Richmond, Va., and Surgeon Capt. C. H. Best, Bytown, Ontario, Canada.

Dr. Henry N. Harkins, Baltimore, read a paper on "Recent Research in the Pathology of Burns." Discussed by Drs. Conrad R. Lam, Detroit; H. Perry Jenkins, Chicago; Virgil H. Moon, Philadelphia; Everett I. Evans, Richmond, Va., and Henry N. Harkins, Baltimore.

Lieut. Carl C. Pfeiffer, MC-V (S), U.S.N.R., Ensign Lois F. Hallman, W-V (S) (H), U.S.N.R., and Lieut. I. Gersh, H-V (S), U.S.N.R., presented a paper on "The Toxicity of Boric Acid as Applied to the Treatment of Burns." Discussed by Drs. Charles G. Barnum, Groton, Conn.; Henry N. Harkins, Baltimore; Lincoln Opper, Norwich, Conn., and Lieut. Carl C. Pfeiffer.

Lieut. Comdr. G. B. Fauley (MC), U.S.N.R., Lieut. T. L. Duggan (H-VS), U.S.N.R., and Lieut. (jg) R. T. Stormont (MC), U.S.N.R., presented a paper on "Use of Penicillin in the Treatment of Peritonitis: An Experimental Study."

SECTION ON NERVOUS AND MENTAL DISEASES

WEDNESDAY, JUNE 14—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr. J. M. Nielsen, Los Angeles.

Dr. J. M. Nielsen, Los Angeles, read the chairman's address, entitled "Subacute Neuromuscular Exhaustion Syndrome."

Dr. Henry R. Viets, Boston, read a paper on "Myasthenia Gravis." Discussed by Drs. F. G. Lindemulder, San Diego, Calif., and Henry R. Viets, Boston.

Drs. Hans H. Reese and Theodore C. Erickson, Madison, Wis., presented a paper on "Musicogenic Epilepsy." Discussed by Drs. Adrien Henri Verbrugghen, Chicago; Lewis John Pollock, Chicago; Joseph P. Reich, Chicago; C. F. Midelfart, Eau Claire, Wis., and Hans H. Reese, Madison, Wis.

Drs. Loyal Davis, Frederick Hiller, George E. Perret and Walter W. Carroll, Chicago, presented a paper on "The Effect of Sulfonamide Drugs on Experimental Gunshot Wounds of Peripheral Nerves."

Dr. Francis C. Grant, Philadelphia, read a paper on "Epidural Spinal Abscess." Discussed by Drs. Adrien H. Verbrugghen, Chicago; A. W. Adson, Rochester, Minn.; George B. Hassin, Chicago, and Francis C. Grant, Philadelphia.

Dr. C. W. Rucker, Rochester, Minn., read a paper on "Sheathing of the Retinal Veins in Multiple Sclerosis." Discussed by Drs. Frederick P. Moersch, Rochester, Minn.; R. P. Mackay, Chicago, and C. W. Rucker, Rochester, Minn.

THURSDAY, JUNE 15—AFTERNOON

The following officers were elected: chairman, Dr. Percival Bailey, Chicago; vice chairman, Dr. H. Houston Merritt, Boston; secretary, Dr. R. P. Mackay, Chicago; executive committee: Dr. T. T. Stone, Chicago; Dr. A. E. Bennett, Omaha, and Dr. Henry Viets, Boston; delegate, Dr. Henry Viets, Boston; alternate, Dr. Joseph P. Evans, Cincinnati; representatives to American Board of Psychiatry and Neurology, Dr. Hans H. Reese, Madison, Wis., and Dr. Walter Freeman, Washington, D. C.; representative on Board of Neurosurgery, Dr. Paul Bucy, Chicago; representative to Scientific Exhibit, Dr. Frederick P. Moersch, Rochester, Minn.

Dr. R. P. Mackay, Chicago, read the report of the Committee on Industrial Health, submitted by Dr. T. T. Stone, chairman, which was accepted.

Dr. Walter Freeman, Washington, D. C., gave a report from the American Board of Psychiatry and Neurology, which was accepted.

Drs. Raymond W. Waggoner, Ann Arbor, Mich., Lieut. Col. William Menninger, M. C., A. U. S., and Comdr. Francis J. Braceland (MC), U.S.N.R., presented a paper on "Psychiatric Selection of Men for the Armed Forces." Discussed by Dr. Hans Deutsch, Chicago; Col. Leonard G. Rowntree, M. C., A. U. S., and Dr. Raymond W. Waggoner, Ann Arbor, Mich.

Capt. Jack G. Sheps, R. C. A. M. C., Toronto, Ont., Canada, red a paper entitled "A Psychiatric Study of Successful Soldiers." Discussed by Lieut. Col. J. D. Griffin, R. C. A. M. C.

A panel discussion on "Operational Fatigue in Combat Aircrews" was participated in by Lieut. Col. Roy R. Grinker and Major Donald W. Hastings, M. C., A. U. S., with Major William H. Everts, M. C., A. U. S., acting as moderator.

Dr. George N. Thompson Jr., Los Angeles, read a paper on "Neurophysiologic Improvements of Electronarcosis Over Electroshock Therapy in Schizophrenia." Discussed by Drs. Lloyd H. Ziegler, Wauwatosa, Wis.; John S. Lundy, Rochester, Minn.; J. M. Nielsen, Los Angeles; Meyer Solomon, Chicago, and George N. Thompson Jr., Los Angeles.

Drs. Lothar B. Kalinowsky, S. E. Barrera and W. A. Horwitz, New York, presented a paper on "The Question of Electric Convulsive Therapy in Psychoneuroses." Discussed by Drs. Abram E. Bennett, Omaha; Lloyd H. Ziegler, Wauwatosa, Wis.; V. E. Gonda, Chicago; Tom B. Throckmorton, Des Moines, Iowa; Walter B. Freeman, Washington, D. C., and Lothar B. Kalinowsky, New York.

FRIDAY, JUNE 16—MORNING

A joint meeting was held with the Section on Anesthesiology.

Dr. E. S. Gurdjian, Detroit, Major John E. Webster, M. C., A. U. S., and Dr. W. E. Stone, Detroit, presented a paper on "Cerebral Metabolism in Experimental Head Injury." Discussed by Drs. Francis G. Grant, Philadelphia; Warren S. McCulloch, Chicago; Percival Bailey, Chicago, and E. S. Gurdjian, Detroit.

Drs. Perry P. Volpitto and B. E. Abreu, Augusta, Ga., presented a paper on "The Influence of Different Forms of Artificial Respiration on the Pulmonary and Systemic Blood Pressure."

Dr. Ralph M. Waters, Madison, Wis., read a paper on "The Relation of Anesthesia to Hypoxia and Anoxia."

Dr. Alfred D. Biggs, Chicago, read a paper on "The Pediatric Aspects of Asphyxia Neonatorum."

Dr. William F. Windle, Chicago, presented a Motion Picture Demonstration on "Experimental Asphyxia Neonatorum."

Drs. Cyril B. Courville and B. Clemson Marsh, Los Angeles, presented a paper on "Neonatal Asphyxia: Some Observations on Its Neurologic and Neuropathologic Aspects."

These five papers were discussed by Drs. H. M. Livingstone, Chicago; W. H. Cassels, Chicago; William C. Danforth, Evanston, Ill.; Ben W. Lichtenstein, Chicago; R. P. Mackay, Chicago; Capt. W. Allen Conroy, Chicago; Drs. M. B. Rosenbluth, New York; Perry P. Volpitto, Augusta, Ga.; Ralph M. Waters, Madison, Wis.; Alfred D. Biggs, Chicago; William F. Windle, Chicago, and B. Clemson Marsh, Los Angeles.

SECTION ON DERMATOLOGY AND SYPHILOLOGY

Wednesday, June 14—Afternoon

The meeting was called to order at 2:05 by the chairman, Dr. Clark W. Finnerud, Chicago.

Dr. Clark W. Finnerud read the chairman's address, entitled "Perlèche: Its Nosologic Status."

Dr. George L. Clark, Urbana, Ill., read a paper on "The Electron Microscope in Dermatology." Discussed by Drs. Gregory Shwartzman, New York, and George L. Clark, Urbana, Ill.

Dr. Francis W. Lynch, St. Paul, read a paper on "Kaposi's Varicelliform Eruption: Extensive Herpes Simplex as a Complication of Eczema." Discussed by Drs. Oliver S. Ormsby, Chicago; Clinton W. Lane, St. Louis; Comdr. Marion B. Sulzberger (MC), U.S.N.R.; Francis A. Ellis, Baltimore; M. H. Ebert, Chicago, and Francis W. Lynch, St. Paul.

Drs. George C. Andrews, Carl B. Braestrup and Eldred B. Heisel, New York, presented a paper on "The Exit Dose in Dermatologic Roentgen Therapy." Discussed by Drs. Harry R. Foerster, Milwaukee, and E. B. Heisel, New York.

Drs. Henry E. Michelson and Carl W. Laymon, Minneapolis, presented a paper on "A Classification of Tuberculosis of the Skin." Discussed by Drs. Ruben Nomland, Iowa City; Fred D. Weidman, Philadelphia; Hamilton Montgomery, Rochester, Minn.; Adolph Rostenberg, Washington, D. C.; Robert Brandt, Cincinnati, and Henry E. Michelson, Minneapolis.

Drs. Garold V. Stryker and William A. Halbeisen, St. Louis, presented a paper on "The Determination of Macrocytic Anemia as an Aid in the Diagnosis of Certain Deficiency Dermatoses." Discussed by Drs. Dudley C. Smith, Charlottesville, Va., and Garold V. Stryker, St. Louis.

Thursday, June 15—Afternoon

The following officers were elected: chairman, Dr. Clyde Cummer, Cleveland; vice chairman, Dr. Dudley C. Smith, Charlottesville, Va.; secretary, Dr. Nelson P. Anderson, Los Angeles; chairman of exhibit, Dr. Hamilton Montgomery, Rochester, Minn.; delegate, Dr. Cornelius Ferd Lehmann, San Antonio, Texas; alternate, Dr. C. W. Lane, St. Louis; for two one year periods to succeed himself on the American Board of Dermatology and Syphilology, Dr. C. Guy Lane, Boston; to succeed himself for three one year periods on the American Board of Dermatology and Syphilology, Dr. Paul A. O'Leary, Rochester, Minn.

The following papers were read in a panel discussion on "Intensive Therapy of Early Syphilis, with Special Reference to Arsenotherapy Either Alone or Combined with Other Agents," Dr. Arthur G. Schoch, Dallas, Texas, moderator:

Dr. Harry Eagle, surgeon, U. S. P. H. S.: "The Treatment of Early and Latent Syphilis in Six to Twelve Weeks with Triweekly Injections of Mapharsen: An Analysis of the Results in the First 4,823 Cases."

Drs. A. Benson Cannon and Jerome K. Fisher, New York: "Intensive Arsenotherapy."

Dr. Evan W. Thomas, New York: "Combined Fever and Arsenotherapy in the Intensive Treatment of Early Syphilis."

These three papers were discussed by Drs. Herbert Rattner, Chicago; Charles M. Carpenter, Rochester, N. Y.; Paul T. Bruyere, Bethesda, Md.; Arthur C. Curtis, Ann Arbor, Mich.; George X. Schwemlein, Chicago; J. R. Driver, Cleveland; Roy L. Kile, Cleveland; Arthur G. Schoch, Dallas, Texas; Harry Eagle, Baltimore; Jerome K. Fisher, New York, and Evan W. Thomas, New York.

The following papers were read in a panel discussion on "Penicillin in the Treatment of Syphilis," Col. Udo J. Wile, U. S. P. H. S., moderator:

Drs. J. F. Mahoney, surgeon, R. C. Arnold, surgeon, and Ad Harris, serologist, U. S. P. H. S.: "Preliminary Results with Penicillin in Experimental Syphilis of Rabbits and in Early Syphilis of Human Beings."

Drs. Joseph Earle Moore, Baltimore; Lieut. Col. Thomas H. Sternberg, M. C., A. U. S.; Comdr. Walter H. Schwartz (MC), U.S.N.; John F. Mahoney, surgeon, U. S. P. H. S., and Dr. W. Barry Wood Jr., St. Louis: "The Preliminary Results of Penicillin Therapy in Early Syphilis in Human Beings with Varying Schemes of Treatment."

Drs. John H. Stokes, Philadelphia, and J. E. Moore, Baltimore; Lieut. Col. Thomas H. Sternberg, M. C., A. U. S.; Comdr. W. H. Schwartz (MC), U.S.N., and John F. Mahoney, surgeon, U. S. P. H. S.: Preliminary Results of the Treatment of Late Syphilis with Penicillin.

These three papers were discussed by Lieut. Comdr. E. E. Barksdale (MC), U.S.N.R.; Capt. William Leifer, M. C., A. U. S.; Comdr. Frank A. Ellis, Corpus Christi, Texas; Col. Udo J. Wile, U. S. P. H. S., and Dr. Joseph E. Moore, Baltimore.

Friday, June 16—Afternoon

Dr. Hamilton Montgomery presented his report as representative to the Scientific Exhibit.

Dr. Richard Fowlkes reported for the Auditing Committee that the books were found to be in order and correct.

The chairman stated that Dr. Francis W. Lynch, St. Paul, had been selected as an assistant to Dr. Hamilton Montgomery as chairman of the Scientific Exhibit, beginning next year.

The report of the secretary of the American Board of Dermatology and Syphilology, Dr. C. Guy Lane, was received.

The report of the Committee on Industrial Dermatoses, Dr. Harry R. Foerster, Milwaukee, chairman, was received.

Dr. Francisco Ronchese, Providence, R. I., read a paper on "Calluses, Cicatrices and Other Stigmas as an Aid in Establishing Personal Identity." Discussed by Drs. Louis Schwartz, Bethesda, Md.; John G. Downing, Boston, and Maurice Oppenheim, Chicago.

Drs. C. Guy Lane, Ethel M. Rockwood, Carl S. Sawyer and Irvin H. Blank, Boston, presented a paper on "Dermatoses of the Hands: Report of Study of 450 Consecutive Cases." Discussed by Drs. Joseph V. Klauder, Philadelphia; Francis E. Senear, Chicago; George C. Andrews, New York; Lloyd W. Ketron, Baltimore; Comdr. Marion B. Sulzberger (MC), U.S. N.R., and Dr. C. Guy Lane, Boston.

Dr. Harry J. Templeton, Oakland, Calif., read a paper on "Epidermal and Dermal Sensitization." Discussed by Drs. Edward A. Oliver, Chicago; Adolph Rostenberg, Washington, D. C.; Charles C. Dennie, Kansas City, Mo.; Howard Fox, New York, and John G. Downing, Boston.

Major Marion I. Davis, M. C., A. U. S., read a paper on "The Dermatologic Aspects of the Vesicant War Gases." Discussed by Comdr. Robert L. Gilman (MC), U.S.N.R.; Charles C. Dennie, Kansas City, Mo.; Leon Goldman, Cincinnati; C. Guy Lane, Boston, and Major Marion I. Davis.

Drs. Hamilton Montgomery and Paul A. O'Leary, Rochester, Minn., presented a paper on "Nodular Vasculitis of the Extremities." Discussed by Drs. Michael H. Ebert, Chicago; John H. Lamb, Oklahoma City; F. D. Weidman, Philadelphia, and Hamilton Montgomery, Rochester, Minn.

Capt. Morris Waisman, M. C., A. U. S., read a paper on "Recurrent, Fixed Erysipelas-like Dermatophytid."

SECTION ON PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH

WEDNESDAY, JUNE 14—MORNING

The meeting was called to order at 9 o'clock by the chairman, Dr. Joseph W. Mountin, U. S. P. H. S., Washington, D. C.

On motion of Dr. Vlado A. Getting, Boston, seconded by Dr. Stanly H. Osborn, Hartford, Conn., the following resolution was adopted:

WHEREAS, The practice of and administration of public health has become a specialty within the practice of medicine for which more and more physicians are specially trained and in which they pursue lifetime careers; and

WHEREAS, The safeguarding and the improvement of the health of the people has always been a primary concern of the medical profession, and our responsibility in this field is so important that it has attracted and should continue to attract some of the ablest members of our profession; and

WHEREAS, Health officers have often devoted their lives to this field at the cost of considerable personal sacrifice, such as inadequate compensation, political interference, insecure tenure of office, lack of facilities for research or opportunities for personal advancement; and

WHEREAS, The American Medical Association has pointed out the fact that many sections of the country are without the benefit of full time trained health officers and that there is great need for more well trained physicians in this field; now therefore be it

Resolved, That (1) It is the considered opinion of this Association that full time health officers and other full time medical specialists in the public health field who have been specially trained for their highly important work should be compensated for their services in a manner comparable with the net professional income of the good surgeons or internists of the community;

(2) Adequate compensation and reasonable security in tenure of office will be necessary before physicians with proper qualifications to assume heavy responsibility of protecting and improving the health of the public will be available in sufficient number to meet the nation's existing needs.

On motion of Dr. W. W. Peter, New Haven, Conn., seconded by Dr. Gilbert G. Cottam, Pierre, S. D., the following resolution was adopted:

WHEREAS, It appears that the problem of tuberculosis control is one that is increased in time of war; and

WHEREAS, Tuberculosis is no respecter of geographic boundaries, and the problem of supervision and care of the migratory tuberculous families is becoming more acute as a result of the mass movement of populations at the present time, and may be anticipated to be even greater in the period of industrial conversion; and

WHEREAS, The number of tuberculous veterans of the armed forces is anticipated as an additional burden to the control machinery; and

WHEREAS, Existing public and private health facilities are already overtaxed; and

WHEREAS, A method of implementation and extension of the tuberculosis control work of the United States Public Health Service has been made in the form of H. R. 4615 and S. 1851 for Congressional action and appropriation, approved by the National Tuberculosis Association; and

WHEREAS, The State and Territorial Health Officers Association strongly urged the passage of such legislation; and

WHEREAS, The tuberculosis committee of the Missouri State Medical Association has approved this legislation, and the house of delegates of the Missouri Medical Association has also approved the legislation and has instructed its delegates to the American Medical Association to present these bills to the House of Delegates of the American Medical Association; and

WHEREAS, The Council of the Medical and Chirurgical Faculty of Maryland adopted a resolution endorsing H. R. 4615 and S. 1851 and urged the passage of this legislation; therefore be it

Resolved, That the Section on Preventive and Industrial Medicine and Public Health of the American Medical Association at its annual meeting in Chicago, on June 12-16, 1944 approve Senate Bill 1851 and House of Representatives Bill 4615 and urge the Congress of the United States to enact these bills into law.

Dr. L. E. Himler, Ann Arbor, Mich., read a paper on "Psychiatric Technics in the Employment of Disabled Ex-Servicemen."

Mr. W. P. Jacobs, Clinton, S. C., read a paper on "Physical Fitness in Industry." Discussed by Dr. W. A. Sawyer, Rochester, N. Y.; Col. L. G. Rowntree, Washington, D. C., and Drs. Carl A. Wilzbach, Cincinnati; Kingsley Roberts, New York; Irving Gray, Brooklyn; Morris Raskin, Detroit, and R. B. Crain, Rochester, N. Y.

Drs. W. A. Sodeman and R. L. Pullen, New Orleans, presented a paper on "Bagasse Disease of the Lungs." Discussed by Drs. H. T. Engelhardt, New Orleans; Irving Gray, Brooklyn, and W. A. Sodeman, New Orleans.

Dr. Bruno Gebhard, Cleveland, read a paper on "Community Health Education by the Medical Profession." Discussed by Drs. W. W. Bauer, Chicago; Emery R. Hayhurst, Columbus, Ohio; Charles V. Craster, Newark, N. J.; Mr. Homer Calver, New York, and Dr. Bruno Gebhard, Cleveland.

Dr. Joseph W. Mountin, U. S. P. H. S., Washington, D. C., read the chairman's address, entitled "Relocating of Physicians as Prerequisite to Better Medical Service."

THURSDAY, JUNE 15—MORNING

On motion of Dr. Carl A. Wilzbach, Cincinnati, duly seconded, the following resolution was adopted:

WHEREAS, High ranking officials of the various branches of our armed forces have stressed the importance of physical fitness in the war effort; and

WHEREAS, The American Medical Association has endorsed the Physical Fitness Program for High Schools as sponsored by the U. S. Department of Education; and

WHEREAS, Physical fitness was emphasized again at the meeting of the Section on Preventive and Industrial Medicine and Public Health on June 14, 1944; now therefore be it

Resolved, That the Section on Preventive and Industrial Medicine and Public Health recommend to the Council on Industrial Health that it endorse and where possible assist in the efforts for providing physical fitness for all workers in industry as a means of increasing the production of war materials and for the general improvement of health; and be it further

Resolved, That the Council on Industrial Health request official approval of the American Medical Association for this action.

The following papers were read in a panel discussion on "Variations in Industrial Medical Service Plans":

Dr. James M. Adams, New York: "Stanocola Medical Care Plan."

Dr. M. S. Bloom, Binghamton, N. Y.: "Variations in Current Industrial Medical Service Plans."

Dr. Sidney R. Garfield, Oakland, Calif.: "Health Plan Principles in the Kaiser Industries."

Dr. Edward M. Jones, Johnson City, N. Y.: "Endicott-Johnson Medical Plan."

Dr. James C. McCann, Worcester, Mass.: "Medical Society Prepayment Programs: Lessons Learned from Experience in Massachusetts."

Dr. John J. Wittmer, New York: "Variations in Current Industrial Medical Service Plans."

After a question and answer period these six papers were discussed by Drs. Dean A. Clark, U. S. P. H. S., Washington, D. C.; Francis M. Pottenger, Monrovia, Calif.; Kingsley Roberts, New York; Charles V. Craster, Newark, N. J.; David A. McCoy, Boston; C. Rufus Rorem, Chicago; James C. McCann, Worcester, Mass.; James M. Adams, New York; M. S. Bloom, Binghamton, N. Y.; Sidney R. Garfield, Oakland, Calif.; Edward M. Jones, Johnson City, N. Y., and John J. Wittmer, New York.

FRIDAY, JUNE 16—MORNING

The following officers were elected: chairman, Dr. E. L. Stebbins, New York; vice chairman, Dr. C. O. Sappington, Chicago; secretary, Dr. W. A. Sawyer, Rochester, N. Y.; executive committee: Dr. Haven Emerson, New York; Dr. Joseph W. Mountin, U. S. P. H. S., Washington, D. C., and Dr. E. L. Stebbins, New York; delegate, Dr. Stanley H. Osborn, Hartford, Conn.; alternate, Dr. Leverett Dale Bristol, New York.

Dr. Arthur Massey, Coventry, England, Honor Guest, gave an address entitled "Recent Developments in British Health Service." Discussed by Drs. Gilbert G. Cottam, Pierre, S. D.; Reginald M. Atwater, New York; Carl A. Wilzbach, Cincinnati; Marshall W. Meyer, Green Bay, Wis.; Felix J. Underwood, Jackson, Miss., and Arthur Massey, Coventry, England.

Dr. Carl A. Wilzbach read a paper on "Report on Medical and Dental Examinations of 6,000 High School Boys and Girls." Discussed by Col. L. G. Rowntree, M. C., A. U. S., Washington, D. C., and Drs. R. B. Crain, Rochester, N. Y.; Emery R. Hayhurst, Columbus, Ohio; A. A. Peter, New Haven, Conn.; F. L. Rector, Lansing, Mich.; Bernard A. Schwartz, Cincinnati, and Carl A. Wilzbach, Cincinnati.

Dr. David M. Gould, U. S. P. H. S., Bethesda, Md., read a paper on "Nontuberculous Lesions Found in Mass X-Ray

Surveys." Discussed by Drs. Russell H. Morgan, Chicago; Joseph W. Mountin, U. S. P. H. S., Washington, D. C.; R. B. Crain, Rochester, N. Y.; Marshall W. Meyer, Green Bay, Wis., and David M. Gould, U. S. P. H. S., Bethesda, Md.

Drs. Haven Emerson and Reginald M. Atwater, New York, presented a paper on "National Health Based on Local Health Units." Discussed by Drs. Richard F. Boyd, Springfield, Ill.; Felix J. Underwood, Jackson, Miss.; Gilbert G. Cottam, Pierre, S. D.; James R. Scott, Santa Fe, N. M.; Joseph W. Mountin, U. S. P. H. S., Washington, D. C., and Reginald M. Atwater, New York.

SECTION ON UROLOGY

Wednesday, June 14—Morning

The meeting was called to order at 9:15 by the chairman, Comdr. Gershom J. Thompson (MC), U.S.N.R.

Drs. J. Sydney Ritter and Samuel E. Kramer, New York, presented a paper on "Ureterovesical Obstruction."

Dr. Samuel A. Vest, Charlottesville, Va., read a paper on "A New Inspection Lens-Sheath as an Aid to Transurethral Resection."

These two papers were discussed by Dr. John H. Morrissey, New York.

The following papers were read as a symposium on "The Treatment of Cancer of the Prostate Gland":

Dr. William P. Herbst, Washington, D. C.: "Effects of Biochemical Therapeusis in Cancer of the Prostate Gland: Further Observation."

Drs. Gordon F. Moore, Carl A. Wattenberg and D. K. Rose, St. Louis: "Breast Changes Due to Diethylstilbestrol During Treatment of Cancer of the Prostate Gland."

Drs. John L. Emmett and Laurence F. Greene, Rochester, Minn.: "Clinical Experience with Bilateral Orchiectomy for Carcinoma of the Prostate Gland."

Dr. J. A. C. Colston, Baltimore: "Surgical Removal of Cancer of the Prostate Gland: The Radical Operation."

Drs. H. C. Bumpus Jr., Ben D. Massey and Earl F. Nation, Pasadena, Calif.: "Experiences with Orchiectomy for Carcinoma of the Prostate Gland."

These five papers were discussed by Drs. Robert H. Cummings, Ann Arbor, Mich.; Walter M. Kearns, Milwaukee; A. Elmer Belt, Los Angeles; N. G. Alcock, Iowa City; Henry K. Sangree, Philadelphia; Victor D. Lespinasse, Chicago, and William P. Herbst, Washington, D. C.

Thursday, June 15—Morning

The following officers were elected: chairman, Dr. Arbor D. Munger, Lincoln, Neb.; vice chairman, Lieut. Col. Lloyd G. Lewis, Washington, D. C.; secretary, Dr. Grayson L. Carroll, St. Louis.

The secretary read the report of the American Board of Urology.

Drs. Edwin L. Prien and Clifford Frondel, Boston, presented a paper on "Analysis of Urinary Calculi by Methods of Optical and X-Ray Crystallography." Discussed by Drs. Anson L. Clark, Oklahoma City, and Edwin L. Prien, Boston.

Comdr. James C. Sargent (MC), U.S.N.R., read a paper on "The Seminal Vesiculogram: An Effort at Interpretation."

Drs. M. Leopold Brodny and Samuel A. Robins, Boston, presented a paper on "Enuresis: The Use of the Urethrogram in Diagnosis."

These two papers were discussed by Drs. George H. Ewell, Madison, Wis.; Lieut. Col. Dorrin F. Rudnick, M. C., U. S. Army; R. E. Van Dusen, Dallas, Texas; Grayson L. Carroll, St. Louis; Meredith F. Campbell, New York, and M. Leopold Brodny, Boston.

Dr. Oswald S. Lowsley, New York, and Lieut. Comdr. Mark S. Curtis (MC), U.S.N.R., presented a paper on "The Surgical Aspects of Cystic Diseases of the Kidney." Discussed by Drs. William F. Braasch, Rochester, Minn., and George R. Livermore, Memphis, Tenn.

Lieut. Col. Lloyd G. Lewis, M. C., A. U. S., read a paper on "The Urologic Treatment After Spinal Injury." Discussed by Dr. Arbor D. Munger, Lincoln, Neb.

Comdr. Gershom J. Thompson (MC), U.S.N.R., read the chairman's address, entitled "The Clinical Use of Penicillin in Genitourinary Infections."

Drs. Elmer Hess, Erie, Pa., and B. W. Wright, Nashville, Tenn., presented a paper on "Pyelocystanastomosis: Report of Two Cases." Discussed by Drs. Edgar Burns, New Orleans; B. W. Wright, Nashville, Tenn., and N. G. Alcock, Iowa City.

Friday, June 16—Morning

A joint meeting was held with the Section on Obstetrics and Gynecology. The proceedings are reported in the minutes of that section.

SECTION ON ORTHOPEDIC SURGERY

Wednesday, June 14—Morning

The meeting was called to order at 9 o'clock by the chairman, Dr. Guy A. Caldwell, New Orleans.

Major Claude N. Lambert, M. C., A. U. S., read a paper on "Delayed Healing Time of Fractures at High Altitudes." Discussed by Col. Grover Penberthy, M. C., A. U. S.; Lieut. Col. A. R. Shands Jr., M. C., A. U. S.; Drs. D. B. Phemister, Chicago; Theodore A. Willis, Cleveland; J. Albert Key, St. Louis, and H. D. Corbusier, New Mexico, and Major Claude N. Lambert, M. C., A. U. S.

Major James J. Callahan, M. C., A. U. S., read a paper on "Revascularization of Carpal Bones." Discussed by Drs. Kellogg Speed, Chicago; D. B. Phemister, Chicago, and Major James J. Callahan.

The following were appointed as a nominating committee: Drs. J. E. M. Thomson, Lincoln, Neb., chairman; Harold B. Boyd, Memphis, Tenn., and Walter G. Stuck, San Antonio, Texas.

Dr. Roy I. Peck, Philadelphia, read a paper on "Treatment of Skeletal Metastases in Prostatic Carcinoma." Discussed by Drs. J. Albert Key, St. Louis; Elmer Hess, Erie, Pa., and Roy I. Peck, Philadelphia.

Dr. G. Edmund Haggart, Boston, read a paper on "Degenerative Arthritis of the Hip Joint Treated by One and Two Stage Arthrodesis with Metal Fixation." Discussed by Drs. David M. Bosworth, New York; Herman C. Schumm, Milwaukee; J. Warren White, Greenville, S. C.; Walter P. Blount, Milwaukee, and G. Edmund Haggart, Boston.

Dr. James Archer O'Reilly, St. Louis, gave a report from the House of Delegates.

Drs. W. H. Bickel, Rochester, Minn., and J. J. Hinchey, St. Paul, presented a paper on "One Stage Combined Rib Resection and Spinal Fusion for Severe Scoliosis." Discussed by Drs. Edward L. Compere, Chicago; Daniel H. Levinthal, Chicago, and W. H. Bickel, Rochester, Minn.

Dr. Harold B. Boyd, Memphis, Tenn., read a paper on "Fractures of the Elbow in Children." Discussed by Drs. John Dunlop, Pasadena, Calif.; J. Warren White, Greenville, S. C.; Walter P. Blount, Milwaukee, and Harold B. Boyd, Memphis.

Thursday, June 15—Morning

Drs. J. Warren White and Sam G. Stubbins, Greenville, S. C., read a paper on "Growth Arrest for Equalizing Leg Lengths." Discussed by Drs. Sylvan L. Haas, San Francisco; C. Howard Hatcher, Chicago, and J. Warren White, Greenville, S. C.

Dr. Guy A. Caldwell, New Orleans, read the chairman's address, entitled "The Postwar Challenge to Orthopedic Surgery."

Dr. Eben J. Carey, Milwaukee, read a paper on "The Pathology of Motor End Plates in Skeletal Muscle, with Special Emphasis on Poliomyelitis."

Dr. Ralph K. Ghormley, Rochester, Minn., presented a report for the Committee for Investigation of Kenny Treatment of Poliomyelitis. Supplemental reports were presented by Drs. J. Albert Key, St. Louis, and Edward L. Compere, Chicago.

Surg. Gen. Norman T. Kirk addressed the section.

The following officers were elected: chairman, Dr. Theodore A. Willis, Cleveland; vice chairman, Lieut. Col. Francis M. McKeever, M. C., A. U. S., Los Angeles; secretary, Dr. J. Warren White, Greenville, S. C.; executive committee: Dr. J. A. Dickson, Cleveland, Dr. Guy A. Caldwell, New Orleans, and Dr. Theodore A. Willis, Cleveland; delegate, Dr. James Archer O'Reilly, St. Louis; alternate, Dr. Herman C. Schumm, Milwaukee; members of Board of Examiners of Orthopedic Surgery: Dr. Robert D. Schrock, Omaha, and Dr. G. Edmund Haggart, Boston.

Dr. Harrison L. McLaughlin, New York, read a paper on "Lesions of the Musculotendinous Cuff of the Shoulder: Differential Diagnosis of Rupture." Discussed by Drs. James E. M. Thomson, Lincoln, Neb.; Edwin W. Ryerson, Chicago, and Harrison L. McLaughlin, New York.

Dr. William T. Green, Boston, read a paper on "Slipping of the Upper Femoral Epiphysis: Diagnostic and Therapeutic Considerations." Discussed by Drs. Fremont A. Chandler, Chicago; Walter P. Blount, Milwaukee; J. Warren White, Greenville, S. C., and William T. Green, Boston.

FRIDAY, JUNE 16—MORNING

A joint meeting was held with the Section on Radiology.

Major Gilbert W. Heublein, M. C., A. U. S., read a paper on "X-Ray Considerations of Traumatic Lesions of the Cervical Spine."

Dr. Arthur G. Davis, Erie, Pa., read a paper on "The Clinical Diagnosis, Treatment and Prognosis of Traumatic Lesions of the Cervical Spine." Discussed by Drs. John Dunlop, Pasadena, Calif.; R. K. Ghormley, Rochester, Minn., and Frank R. Ober, Boston.

Dr. Howard P. Doub, Detroit, read a paper on "Roentgen Studies of Aseptic Necrosis of the Epiphyses and Short Bones."

Dr. Wallace H. Cole, St. Paul, read a paper on "The Clinical Diagnosis, Treatment and Prognosis of Epiphysial Disturbances in Childhood." Discussed by Drs. Frank R. Ober, Boston; W. Edward Chamberlain, Philadelphia, and D. B. Phemister, Chicago.

Dr. John W. Pierson, Baltimore, and Lieut. Comdr. John F. Roach (MC), U.S.N., presented a paper entitled "The Roentgenology of Osteomyelitis."

Dr. Frank D. Dickson, Kansas City, Mo., read a paper on "The Clinical Diagnosis, Treatment and Prognosis of Acute Hematogenous Osteomyelitis." Discussed by Drs. E. E. Mansur, Jefferson City, Mo., and Carl Badgley, Ann Arbor, Mich.

SECTION ON GASTRO-ENTEROLOGY AND PROCTOLOGY

WEDNEDAY, JUNE 14—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr. Emmett H. Terrell, Richmond, Va.

Drs. Lester M. Morrison and Ernest A. Spiegel, Philadelphia, presented a paper on "Demonstration of Visceral Pain by Determination of Skin Potentials." Discussed by Drs. Francis M. Pottenger, Monrovia, Calif.; Jose Mendez Feros, Havana, Cuba, and Lester M. Morrison, Philadelphia.

Dr. Frank C. Yeomans, New York, read a paper on "Sigmoidoscopy in Diagnosis and Treatment." Discussed by Drs. Descum C. McKenney, Buffalo; C. C. Tucker, Wichita, Kan., and Frank C. Yeomans, New York.

Dr. Frank W. Hartman, Detroit, read a paper on "Curling's Ulcer in Experimental Burns." Discussed by Drs. T. E. Bratrud, Minneapolis, and Frank W. Hartman, Detroit.

Drs. Russell S. Boles, Helena E. Riggs and John G. Reinhold, Philadelphia, presented a paper on "Observations on the Chemical Composition of the Blood and on Some Cardiovascular Reactions in Chronic Peptic Ulcer Throughout One Year." Discussed by Drs. Heinrich Necheles, Chicago, and Russell S. Boles, Philadelphia.

Dr. Everett N. Collins, Cleveland, read a paper on "The Use of Aluminum Hydroxide and Other Nonabsorbable Antacids in the Treatment of Peptic Ulcer." Discussed by Drs. James Flexner, New York; Walter L. Palmer, Chicago, and Everett N. Collins, Cleveland.

Dr. Benjamin M. Bernstein, Brooklyn, read a paper on "Gastroduodenal Dyssynergia." Discussed by Drs. Walter C. Alvarez, Rochester, Minn.; Walter L. Palmer, Chicago; Sara M. Jordan, Boston, and Benjamin M. Bernstein, Brooklyn.

Drs. Martin G. Vorhaus and S. Zachary Orgel, New York, presented a paper on "Psychosomatic Factors in Gastrointestinal Disorders." Discussed by Drs. Franz G. Alexander, Chicago; Sidney A. Portis, Chicago; Benjamin M. Bernstein, Brooklyn; George B. Eustermann, Rochester, Minn., and S. Zachary Orgel, New York.

Dr. Henry A. Rafsky, New York, read a paper on "Medical War Problems Confronting the Civilian Physician Today." Discussed by Major Jerome S. Levy, M. C., A. U. S.; Capt. J. Edward Berk, M. C., A. U. S., Utica, N. Y., and Henry A. Rafsky, New York.

THURSDAY, JUNE 15—AFTERNOON

The following officers were elected: chairman, Dr. J. Arnold Bargen, Rochester, Minn.; vice chairman, Dr. Martin S. Kleckner, Allentown, Pa.; secretary, Dr. Sara M. Jordan, Boston; executive committee: Dr. Walter L. Palmer, Chicago; Dr. Emmett H. Terrell, Richmond, Va., and Dr. J. Arnold Bargen, Rochester, Minn.; delegate, Dr. Louis A. Buie, Rochester, Minn.; alternate, Dr. Walter L. Palmer, Chicago; chairman of scientific exhibit, Dr. Grant H. Laing, Chicago; member certifying committee, Board of Proctology, Dr. Frank C. Yeomans, New York.

Dr. Emmett H. Terrell, Richmond, Va., read the chairman's address, entitled "Present Day Proctology."

Dr. Paul C. Blaisdell, Pasadena, Calif., read a paper on "Traumatic Injuries of the Rectum." Discussed by Drs. Malcolm R. Hill, Los Angeles, and Paul C. Blaisdell, Pasadena, Calif.

Dr. Curtice Rosser, Dallas, Texas, read a paper on "Benign Surgical Lesions of the Right Colon." Discussed by Dr. Walter A. Fansler, Minneapolis.

Drs. W. Wayne Babcock and Harry E. Bacon, Philadelphia, presented a paper on "Complications in the Operative Treatment of Cancer of the Colon."

Dr. Moses Behrend, Philadelphia, read a paper on "Colon Surgery and the Sulfonamide Drugs, with Especial Reference to the Elimination of the Mikulicz Operation."

Dr. Edward G. Martin, Detroit, read a paper on "Resistance: The Function of the Colon." Discussed by Dr. Joseph Felsen, New York.

Dr. Paul B. Welch, Miami, Fla., read a paper on "Distortions of the Gastric Feeding Reflex Associated with Extragastric Pathology: Their Clinical Significance." Discussed by Drs. Morton J. Oppenheimer, Philadelphia, and Paul B. Welch, Miami, Fla.

Dr. Everett D. Kiefer, Boston, read a paper on "Criteria in the Management of Chronic Ileitis." Discussed by Drs. J. Arnold Bargen, Rochester, Minn.; Henry A. Rafsky, New York, and Everett D. Kiefer, Boston.

Drs. Harry L. Segal and W. J. Merle Scott, Rochester, N. Y., presented a paper on "Small Intestinal Lesions Producing Mas-

sive Hemorrhage and Symptoms Simulating Peptic Ulcer." Discussed by Drs. T. E. Jones, Cleveland, and Stockton Kimball, Buffalo.

Drs. Daniel N. Silverman and Alan N. Leslie, New Orleans, presented a paper on "Intractable Amebic Colitis." Discussed by Drs. Walter L. Palmer, Chicago; M. G. Spiesman, Chicago, and Daniel N. Silverman, New Orleans.

Dr. Joseph Felsen, New York, read a paper on "Bacillary Dysentery in War." Discussed by Drs. Herman M. Pollard, Ann Arbor, Mich.; Daniel N. Silverman, New Orleans, and Joseph Felsen, New York.

FRIDAY, JUNE 16—AFTERNOON

A joint meeting was held with the Section on Surgery, General and Abdominal.

Dr. A. H. Aaron, Buffalo, read a paper on "Inflammatory Lesions of the Stomach and Duodenum: Medical Aspect."

Dr. Frank H. Lahey, Boston, read a paper on "Inflammatory Lesions of the Stomach and Duodenum: Surgical Aspect."

These two papers were discussed by Drs. Albert F. R. Andresen, Brooklyn; Marie Ortmayer, Chicago; Henry A. Rafsky, New York; Sara M. Jordan, Boston; A. H. Aaron, Buffalo, and Frank H. Lahey, Boston.

Dr. Henry L. Bockus, Philadelphia, read a paper on "Inflammatory Lesions of the Small Intestine: Medical Aspect."

Dr. Henry W. Cave, New York, read a paper on "Inflammatory Lesions of the Small Intestine: Surgical Aspect."

These two papers were discussed by Drs. Burrill B. Crohn, New York; Marie Ortmayer, Chicago, and Henry W. Cave, New York.

Dr. J. Arnold Bargen, Rochester, Minn., read a paper on "Inflammatory Lesions of the Colon: Medical Aspect."

Dr. Thomas E. Jones, Cleveland, read a paper on "Inflammatory Lesions of the Colon: Surgical Aspect."

These two papers were discussed by Drs. Donovan C. Browne, New Orleans; Raymond W. McNealy, Chicago; M. H. Streicher, Chicago; J. Arnold Bargen, Rochester, Minn., and Thomas E. Jones, Cleveland.

SECTION ON RADIOLOGY

WEDNESDAY, JUNE 14—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr. Robert A. Arens, Chicago.

Drs. Frederick E. Templeton and Paul M. Moore, Cleveland, presented a paper on "Cardiospasm: A Roentgenologic Study of Muscular Action." Discussed by Dr. A. M. Olsen, Rochester, Minn.

Drs. Leo G. Rigler and Henry S. Kaplan, Minneapolis, and Capt. Daniel L. Fink, M. C., A. U. S., presented a paper on "Pernicious Anemia and Tumors of the Stomach." Discussed by Drs. Harry Weber, Rochester, Minn.; Paul Swenson, Philadelphia, and Peter Casellas, San Juan, Puerto Rico.

Drs. Arthur P. Echternacht and John Alexander Campbell, Indianapolis, presented a paper on "The Value of Scout Films of the Abdomen." Discussed by Dr. Leroy Sante, St. Louis.

Dr. Hugh F. Hare, Boston, read a paper on "Osteitis Condensans Ilii."

Capt. Charles F. Berens (MC), U.S.N.R., read a paper on "Some Radiologic Considerations of Upper Extremity Pain."

THURSDAY, JUNE 15—AFTERNOON

The chairman announced the death of the secretary of the section, Dr. John T. Murphy of Toledo, that morning, and the members arose and stood in silent tribute to his memory.

The following officers were elected: chairman, Dr. Edwin C. Ernst, St. Louis; vice chairman, Dr. Bernard P. Widmann, Philadelphia; secretary, Dr. U. V. Portmann, Cleveland; delegate, Dr. B. R. Kirkland, Rochester, Minn.; alternate, Dr. Eugene Pendergrass, Philadelphia; delegate to the American Board of Radiology, Dr. John W. Pierson, Baltimore.

Dr. Robert A. Arens, Chicago, read the chairman's address, entitled "Radiologic Aspects of the Urologic Problem."

Drs. Harry H. Bowing and Robert E. Fricke, Rochester, Minn., read a paper on "Urinary Complications in Cases of Carcinoma of the Uterine Cervix: Management and Prognosis." Discussed by Dr. Edward Earl Mansur, Jefferson City, Mo.

Dr. C. D. Selby, Detroit, read a paper on "Industry's Attitude Toward X-Ray Examination of the Chest." Discussed by Col. A. J. Lanza, M. C., A. U. S.

Drs. Eugene P. Pendergrass and Simon S. Leopold, Philadelphia, presented a paper on "Benign Pneumonoconiosis." Discussed by Col. A. J. Lanza, M. C., A. U. S.; Dr. I. S. Trostler, Chicago, and Dr. Norbert Enzer, Milwaukee.

Dr. Richard E. Kinzer, M. C., A. U. S., read a paper on "An Analysis of Disqualifying Conditions Found During the Chest X-Ray Examination of 105,141 Selectees." Discussed by Drs. Robert G. Bloch, Chicago, and Capt. H. J. Prichard, Chicago.

FRIDAY, JUNE 16—MORNING

A joint meeting was held with the Section on Orthopedic Surgery. The proceedings are reported in the minutes of that section.

SECTION ON ANESTHESIOLOGY

WEDNESDAY, JUNE 14—MORNING

The meeting was called to order at 9:15 by the chairman, Dr. Paul M. Wood, New York.

Dr. Henry S. Ruth, Merion Station, Pa., read a paper on "Anesthesia Study Commissions." Discussed by Drs. Frederick P. Haugen, Philadelphia, and Roland J. Whitacre, East Cleveland, Ohio.

Dr. Urban H. Eversole, Boston, read a paper on "Why Use Spinal Anesthesia?"

Dr. Edward B. Tuohy, M. C., A. U. S., read a paper on "Continuous Spinal Anesthesia: Its Usefulness and the Technic Involved."

These two papers were discussed by Drs. William T. Lemmon, Philadelphia, and Capt. Floyd T. Romberger, M. C., A. U. S.

Dr. Harold R. Griffith, Montreal, read a paper on "Curare." Discussed by Drs. Stuart C. Cullen, Iowa City, and J. W. Baird, Minneapolis.

WEDNESDAY, JUNE 14—MORNING

Business Session

The secretary, Dr. John S. Lundy, Rochester, Minn., read a letter from Dr. L. H. Bauer, chairman of the Council on Medical Service and Public Relations, and a letter from Dr. James R. Miller, Hartford, Conn., addressed to Dr. Bauer, regarding the demand from the public that charges for diagnostic x-ray examinations be combined in the total hospital bill along with charges for anesthesiology and laboratory services. The matter was referred to the executive committee, which prepared instructions for the delegate to the House:

1. It is the opinion of the committee, confirmed by the section, that anesthesiology is the practice of medicine; that medical practice is distinct from hospital service and must so remain.

2. It is the opinion of this body that services rendered patients by medical anesthesiologists, regardless of economic arrangement, is one of responsibility and has and always must maintain close personal relationship of patient and physician.

It was moved, seconded and unanimously carried to accept these instructions to the delegate to the House.

Dr. Henry S. Ruth, Merion Station, Pa., the representative of the section in the House of Delegates, reported on a resolution presented at the meeting of the House, recommending that the American Medical Association commend and encourage 1944 as the centenary year of Horace Wells's first application of

nitrous oxide as an agent for inhalation of anesthesia. After considerable discussion as to the wording of the resolution, it was unanimously moved to lay the resolution on the table until the meeting of the section on the following morning, to permit the wording of the resolution to meet the approval of the section. It was agreed that Dr. Curtis B. Hickcox, Hartford, Conn., would reword the resolution.

Major Harold Bishop, Washington, D. C., offered a resolution that a representative of the section be appointed to present the matter of anesthesia study commissions and their importance to the executive committee of the American Medical Association with a view to possible adoption in its educational program so that it could be put on a national scale.

Dr. Walters asked Major Bishop to change the motion to the effect that the chairman be asked to appoint a committee of three to consider this matter and present it at the next business session. Major Bishop accepted the change, and the motion was seconded and carried. Major Bishop, Dr. Haugen and Dr. Whitacre were appointed to meet with the executive committee concerning this resolution.

THURSDAY, JUNE 15—MORNING

The following officers were elected: chairman, Dr. Ansel M. Caine, New Orleans; vice chairman, Dr. Harold C. Kelley, New York; secretary, Dr. John S. Lundy, Rochester, Minn.; delegate, Dr. Henry S. Ruth, Philadelphia; alternate, Dr. H. Boyd Stewart, Tulsa, Okla.

Major Harold Bishop reported for the committee of three on the matter of anesthesia study commissions appointed at the preceding meeting (resolution taken by Dr. Ruth for presentation to the House of Delegates).

Dr. Lundy read the letter drafted in reply to Dr. L. H. Bauer:

Your letter with enclosure to Dr. John S. Lundy, secretary of the Section on Anesthesiology, under date of Jan. 20, 1944, has been considered by the executive committee of the section.

The committee, after due deliberation, concurs in the following reply.

1. We feel that the proper practice of anesthesiology involves personal relationship between physicians and patients no less intimate than that enjoyed by a majority of medical practitioners.

2. Past experience indicates that the destruction of such personal relationship tends to jeopardize the best professional service to patients.

3. Evidence tends to show that the employment of anesthesiologists by hospitals on a salary basis rarely remains a fair and equitable plan. It seldom serves to encourage superior professional ability or to promote improvement in professional attainment.

It would therefore be our opinion that the resolution adopted by the House of Delegates in 1943 (June 8, 1943, published in THE JOURNAL, June 26, 1943, p. 619) expresses a proper attitude which ought to be maintained.

The redrafted resolution concerning the Horace Wells centenary year was read and ordered placed in the minutes, as follows:

WHEREAS, It has been well established that Horace Wells of Hartford, Conn., was one of the first to suggest a practical method of rendering the human body insensible during surgical operations;

WHEREAS, He was the first to show that nitrous oxide could be used as an anesthetic agent and himself used nitrous oxide in many operations;

WHEREAS, He at once made known his discovery to members of the medical and dental profession in Hartford and elsewhere, showing thereby a commendable desire to make known to others the knowledge of his great discovery; therefore be it

Resolved, That, since 1944 marks the centenary of the discovery by Horace Wells, this society believes this is an appropriate time to honor his memory.

The resolution was accepted by unanimous vote.

Dr. Paul M. Wood, New York, read the chairman's address, entitled "Some Aims of an Anesthesiologist."

Dr. Robert A. Hingson, P. A. Surgeon, U. S. P. H. S., read a paper entitled "Continuous Caudal Analgesia: A Technic in Therapeutics, Surgery and Obstetrics." Discussed by Drs. John G. P. Cleland, Oregon City, Ore., and H. Close Hesseltine, Chicago.

Dr. John Adriana, New Orleans, read a paper on "The Effect of Moisture on the Absorption Efficiency of Soda Lime." Discussed by Dr. James H. Bennett, Cincinnati, and Capt. Ralph Sappenfield, M. C., A. U. S.

Dr. R. Charles Adams, Rochester, Minn., read a paper entitled "Intravenous Anesthesia." Discussed by Drs. Alice McNeal, Chicago; Robert A. Hingson, U. S. P. H. S.; S. A. Swenson, Rushville, Neb.; H. A. Cunningham, Milwaukee; K. C. McCarthy, Louisville, Ky.; Herman Lenowitz, Maywood, Ill., and Stuart C. Cullen, Iowa City.

Dr. E. A. Rovenstine, New York, read a paper on "Therapeutic and Diagnostic Nerve Blocking." Discussed by Drs. H. O. Brown, Chicago, and Major Harold Bishop, Washington, D. C.

FRIDAY, JUNE 16—MORNING

A joint meeting was held with the Section on Nervous and Mental Diseases. The proceedings are reported in the minutes of that section.

SECTION ON MISCELLANEOUS TOPICS

Sessions for the General Practitioner

WEDNESDAY, JUNE 14—MORNING

The meeting was called to order at 9:10 by the chairman, Dr. J. Craig Bowman, Upper Sandusky, Ohio.

Dr. J. Craig Bowman, Upper Sandusky, Ohio, read the chairman's address, entitled "The Role of the General Practitioner."

Dr. Sidney A. Portis, Chicago, read a paper on "The Medical Treatment of Psychosomatic Disturbances, with Special Reference to the Gastrointestinal Tract and Fatigue." Discussed by Col. Leonard G. Rowntree, M. C., A. U. S., and Drs. Hobart A. Reimann, Philadelphia, and Dr. Sidney A. Portis, Chicago.

Dr. M. A. Blankenhorn, Cincinnati, read a paper on "The Newer Sulfonamides." Discussed by Drs. Lawrence D. Thompson, St. Louis; S. L. Bernstein, Cleveland; David Lehr, New York, and M. A. Blankenhorn, Cincinnati.

Dr. Wallace E. Herrell, Rochester, Minn., read a paper on "Penicillin Therapy: Its Use and Limitation." Discussed by Drs. Walter S. Priest, Chicago; K. R. Brown, Des Moines, Iowa; W. M. Johnson, Winston-Salem, N. C., and Dr. Wallace E. Herrell, Rochester, Minn.

Dr. John A. Toomey, Cleveland, read a paper on "Chief Complaint: Stiff Neck." Discussed by Drs. Archibald L. Hoyne, Chicago; Gilbert J. Levy, Memphis, Tenn., and John A. Toomey, Cleveland.

Dr. Royal M. Montgomery, New York, read a paper on "Cutaneous Manifestations of the Fungi Causing Dermatophytosis and Onychomycosis and Their Treatment." Discussed by Drs. John H. Lamb, Oklahoma City, Arthur C. Curtis, Ann Arbor, Mich., and Royal M. Montgomery, New York.

THURSDAY, JUNE 15—MORNING

Dr. William Earl Clark, Washington, D. C., read a paper on "Gastrointestinal Conditions Simulating or Aggravating Cardiovascular Diseases." Discussed by Drs. Sara M. Jordan, Boston, and William Earl Clark, Washington, D. C.

Lieut. Col. William J. Carrington, M. C., A. U. S., read a paper on "Diagnosis of Acute Surgical Diseases of the Female Pelvis and Lower Abdomen."

Lieut. Col. Thomas T. Mackie, M. C., A. U. S., read a paper on "The Dysenteries: Acute and Chronic." Discussed by Dr. George T. Harrell Jr., Winston-Salem, N. C.; Capt. William C. Bernstein, M. C., A. U. S., and Lieut. Col. Thomas T. Mackie, M. C., A. U. S.

Dr. August A. Werner, St. Louis, read a paper on "The Male Climacteric." Discussed by Drs. Charles W. Dunn, Philadelphia; Benjamin F. Sieve, Boston, and August A. Werner, St. Louis.

Dr. E. J. Teeter, Indianapolis, read a paper on "Anemia Therapy: Review of Various Liver and Stomach Fractions and Iron Salts." Discussed by Drs. Francis D. Murphy, Milwaukee; Ralphael Isaacs, Chicago, and E. J. Teeter, Indianapolis.

OFFICIAL NOTES

COMMITTEE ON POSTWAR MEDICAL SERVICE

Meeting Held in the Palmer House, Chicago, June 14, 1944

Members and guests present:

Dr. Roger I. Lee
Dr. H. H. Shoulders
Dr. Frederick A. Coller
Dr. Willard C. Rappleye
Dr. Graham G. Davis
Dr. Victor Johnson
Lieut. Col. Gerard R. Gessner
Lieut. Col. George Powell
Lieut. Col. Harold C. Lueth
Dr. Francis G. Blake
Capt. W. Baker
Dr. James E. Paullin
Miss Mary E. Switzer
Dr. Morris Fishbein
Rev. Alphonse Schwitalla
Lieut. Col. Richard L. Meiling
Dr. E. E. Irons
Dr. E. R. Loveland
Brig. Gen. Fred W. Rankin
Major Gen. N. T. Kirk
Major Gen. George Lull
C. Willard Camalier, D.D.S.
Dr. Arthur W. Allen
Dr. Irvin Abell
Dr. Harvey Stone
Dr. Walter L. Bierring
Dr. Olin West
Vice Admiral Ross T. McIntire
Capt. William Eaton

In the absence of the secretary of the committee, the chairman requested Dr. H. H. Shoulders to serve as temporary secretary.

The chairman announced the presence of new members of the committee: Mr. Graham Davis, representing the American Hospital Association, and Rev. Alphonse Schwitalla, S.J., representing the Catholic Hospital Association.

REPORT OF ACTION TAKEN BY THE HOUSE OF DELEGATES

The chairman at this point read a statement of the action taken by the House of Delegates of the American Medical Association on the report to the House by Dr. Roger I. Lee, chairman of the committee. The action was entirely favorable to the activities of the committee and to its continuance in service.

LEGISLATION AFFECTING VETERANS

The next question raised was the status of current legislation affecting the educational privileges and financial aids of veterans of this war. Particular reference was made to the status of the bill referred to as the G. I. bill.

It was recommended that Mr. J. W. Holloway of the Bureau of Legal Medicine and Legislation of the American Medical Association make an analysis of all current national legislation concerned with educational privileges and financial aid to veterans of this war and submit his analysis to the members of this committee.

ANALYSIS OF PILOT QUESTIONNAIRE

An analysis of 927 returned pilot questionnaires was presented by Lieutenant Colonel Lueth. This report will appear in an early issue of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. The large number of returned questionnaires (31 per cent) indicates a genuine interest among medical officers in active postwar planning. Medical officers, particularly young medical officers, are greatly interested in the creation of immediate postwar educational training programs.

PUBLICITY OF COMMITTEE ACTIVITIES

A motion was made by Miss Mary E. Switzer and seconded by Dr. Paullin that publicity be given to this analysis better to acquaint medical officers in the field, as well as practitioners at home, with the detailed groundwork that has been done incident to the formulation of sound postwar policies. It was further pointed out that an explanation of the purpose of the questionnaire to the doctors would facilitate a better return of the final questionnaire soon to be sent to each medical officer. The motion was put to a vote and carried.

REVISED QUESTIONNAIRE

As a result of the returned pilot questionnaires, certain revisions appeared desirable. At the last meeting of the Committee on Postwar Medical Service a committee composed of Dr. Abell, Dr. West, Dr. Irons and Lieutenant Colonel Lueth was empowered to make such revisions in the final questionnaire as appear necessary. The revised questionnaire was presented and the committee was informed that the questionnaires are printed and are shortly to be distributed to the Army, Navy and Public Health Service for early mailing to medical officers.

PLANS AND FACILITIES FOR POSTGRADUATE TRAINING

Dr. Victor Johnson, Secretary of the Council on Medical Education and Hospitals of the American Medical Association, reported progress on the study of available facilities for postgraduate training in the form of residencies, internships, short courses, and so on, that will be available for medical men immediately after the cessation of hostilities. In particular it was recommended that the Council on Medical Education and Hospitals be given authority to explore the possibilities of the developments of a six to eight weeks course for a small number of medical officers who are about to be discharged from the armed services. The plan was discussed by Dr. Abell, Dr. Stone, Dr. Rappleye, Father Schwitalla and Lieutenant Colonel Lueth. General Kirk and Vice Admiral McIntire were requested to express an opinion on the feasibility of such plans. While they were in accord with the formation of short refresher courses, they pointed out certain limitations and indicated that such plans could not be put into operation in the immediate future because of the enlarging demands of both services for medical personnel, which needs have not been completely satisfied at present.

After full and free discussion, Dr. Abell moved that the Council on Medical Education and Hospitals be requested to work out a program for such a course in postgraduate training as an experiment. This was put to a vote and carried. Vice Admiral McIntire agreed to supply the Council with a list of naval officers now in various medical institutions for training.

BUREAU OF INFORMATION

Dr. Irons, chairman of the subcommittee, reported that the Board of Trustees and the House of Delegates of the American Medical Association have taken action to create a Bureau of Information to be established at 535 North Dearborn Street, Chicago 10, Illinois, and to make its facilities available to all who may be interested. This bureau was created primarily to serve as an information service to discharged veterans and to institutions and localities for their mutual benefit in facilitating the placement of personnel. The new agency is in no sense to serve as an employment agency, and to this end the Information Bureau will be in operation only during the peak of demobilization.

DISPOSITION OF EXCESS MEDICAL SUPPLIES AND EQUIPMENT

The next question concerned the matter of disposition of government owned medical supplies and equipment currently on hand in warehouses as excess material. In particular, reference was made to equipment and supplies no longer needed by the Office of Civilian Defense. It was reported that the large stores of supplies and equipment might deteriorate in storage if not used; consequently they might be put to practical uses if satisfactory plans for disposition could be arranged. It was pointed out that certain governmental agencies are vitally concerned with the program and would welcome the advice and assistance of the committee.

It was moved by Dr. H. H. Shoulders and seconded by Dr. Arthur W. Allen that Chairman Lee be authorized to appoint a subcommittee to explore this question and report back to the committee at its next meeting. This motion was put to a vote and carried.

During the discussion of the uses of excess medical equipment and supplies it was suggested that means of ascertaining the effects of deterioration and contamination should be carefully considered by the subcommittee.

Capt. William Eaton, U. S. N., recommended that a medical officer representative of the governmental services be made ex officio a member of the Committee on Supplies and Equipment.

In view of the complexity and gravity of the problems of distribution of excess medical supplies, the chairman asked that he be given sufficient time during which to consider the appointment of members of the committee.

FACILITATING MEDICAL LICENSURE

Dr. Walter Bierring offered the facilities of the Federation of State Boards of Medical Examiners in working out problems concerned with the licensure of returning veterans.

There being no further business, the Committee adjourned to meet in New York City at a time to be fixed by the chairman.

The chairman appointed W. W. Palmer, E. E. Irons, Father Schwitalla, Morris Fishbein and M. E. Switzer as a subcommittee on Excess Medical and Hospital Supplies.

WASHINGTON LETTER

(From a Special Correspondent)

June 26, 1944.

Maternity Care

Doctors in the District of Columbia, now paid a flat $50 fee for maternity care of servicemen's wives, will get additional fees effective July 1 from the government when necessary treatment of intercurrent conditions requires repeated professional calls at home or hospital, officials of the maternity and child welfare section of the District of Columbia Health Department disclose.

This liberalization of maternity care payments is expected to eliminate one of several dissatisfactions of doctors and patients which has limited effectiveness of the plan intended by Congress to aid the wives of lowest paid soldiers and sailors in the fourth, fifth, sixth and seventh pay grades.

Altogether 254 Washington doctors are accepting patients under the plan; so far as service wife-and-child patients are concerned, the arrangement is much more liberal than it sounds.

Some Washington obstetricians limit the number they will accept to 2 a month or 3 a month; one doctor has 71 service maternity patients under the plan, another 30, and the majority under 10 each.

No limit is fixed on hospital care; the mother stays as long as she needs hospitalization, and the health department pays her bill on the basis of hospital contracts negotiated with cooperating institutions—Columbia, Freedmen's, Gallinger, Garfield, Georgetown, George Washington, National Homeopathic, Providence and Sibley.

Marriage Regulations

Another effort has been made to bring District of Columbia marriage regulations into line with the thirty states which require compulsory medical examination of all applicants for marriage licenses. The bill, presented to the House by Chairman Jennings Randolph (Democrat, West Virginia) of the House Committee on the District of Columbia would require examination for syphilis, gonorrhea and tuberculosis. An identical measure was introduced in 1941 at the request of the District commissioners, but no action was taken on it. Neighboring Maryland also lacks premarital regulations, but Virginia enforces them.

The bill stipulates that applicants for marriage licenses must submit a physician's certificate stating that serologic or other recognized laboratory procedure had been undertaken within thirty days of making the application. Tests would be made without charge by the district health department. Penalty of $500 fine or up to six months' imprisonment or both is provided for violations.

District health officials are in favor of legislation to require antepartum examination to protect babies against syphilis, but this is not included in the bill. Neither Maryland nor Virginia has such a law.

Shortage of Nurses

Washington hospitals are finding a partial answer to the acute shortage of nurses in the use of hospital men volunteers, joint project of the Office of Civilian Defense and the American Hospital Association. Doctors Hospital has signed 45 men for volunteer nurse duty, among them civil service workers, businessmen, accountants, lawyers and clerks. Welcomed by Dr. Edgar Bocock, Doctors Hospital administrator, they began work on four hour shifts, assigned to floor duty as orderlies. Dr. Bocock outlined a plan for appealing to other volunteers in kitchen, housekeeping and clerical work.

Hospital men volunteers are also being enrolled at Emergency and Garfield Hospitals, with other hospitals here to put the program into effect later.

After collapse of a plan to get services of conscientious objectors through Selective Service, Dr. George C. Ruhland, District of Columbia health officer, tried to obtain paroled jail prisoners to meet personnel needs at Glenn Dale Sanatorium and Gallinger Municipal Hospital. He has written to James V. Bennett, director of the Federal Bureau of Prisons to learn if prisoners could be detailed or paroled to the District institutions. Housing and food would be furnished workers, and the city might offer some pay if permitted.

MEDICAL ECONOMIC ABSTRACTS

NEW HAMPSHIRE PREPAYMENT PLAN

The New Hampshire Physician Service has begun operation in cooperation with the New Hampshire-Vermont Hospitalization Service. Joint contracts are issued at a monthly cost to the subscriber of $2.25 for an individual and $5.25 for the family, covering hospitalization, surgical service and medical service. Of the payments from the individual 75 cents is assigned to each of the three types of service, and the family contributions are also distributed giving $1.75 for each class of service.

The Blue Cross New Hampshire-Vermont Hospitalization Service administers the hospital section, while the Surgical and Medical Indemnity Services are in a separate division under the direction of the New Hampshire Medical Service. The governing power is vested in the "voting members," of which at least one half must be members of the New Hampshire Medical Society. The "voting members" choose the board of directors, "at least a majority of whom shall be approved by the house of delegates of the New Hampshire Medical Society, and one of whom shall be the president of the New Hampshire Hospitalization Service." The board of directors is to choose from its own membership a "professional committee," which "shall have supervision over the medical aspects of all matters relating to (*a*) the standards of medical care provided subscribers, (*b*) the qualifications of participating physicians, (*c*) the admission, suspension or disciplining of participating physicians, (*d*) the amount of credits allowed for service not specifically specified in the schedule of benefits and (*e*) any matters in dispute between the subscriber and the participating physician, or between the corporation and the participating physician."

The payments to physicians for services are on the indemnity plan and do not prevent additional charges. The first two visits are deductible, and paid for by the subscriber, and only twenty-five visits will be paid for during a single year. Contracts for medical services are granted only to those having surgical contracts.

REPORT OF THE NEW JERSEY PLAN

The Medical-Surgical Plan of New Jersey submitted a supplementary report to the House of Delegates of the Medical Society of New Jersey which gives the results of twenty-one months of operation ended March 31, 1944. From this report the following is taken:

As of March 31 there were 20,460 persons enrolled in the plan.

The plan has received from its subscribers $120,884.69 and has paid $71,226.75, or 58.9 per cent, of this income to physicians for medical and surgical services rendered its subscribers and dependents.

From its earned income it has paid all administrative costs, all eligible claims in accordance with its predetermined schedule of benefits and placed $19,850.33, or 16.4 per cent, of its earned income in reserve. In addition it retains intact the $5,000 capital fund donated by the Medical Society of New Jersey.

The state legislature passed a bill on April 13, 1944 permitting an expansion of the plan under certain conditions to include patients not hospitalized.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

ARIZONA

Major Greene Returns as Director of Laboratories.—Major Robert A. Greene, U. S. Army Chemical Warfare Service, who received an honorable discharge May 8, has rejoined the state department of health as director of laboratories, a position he had held for six years prior to his military leave. Mildred T. Wooley, D.P.H., who has been director of the laboratory since August 1941, will return to her home in California, according to *Arizona Public Health News*. Dr. Greene received his degree of doctor of philosophy at the University of Arizona, Tucson, in 1933.

COLORADO

Medical Journal Dedicated to Donald Cummings.—The *Rocky Mountain Medical Journal* for June was designated the Donald E. Cummings Memorial Number in honor of the man who on Dec. 15, 1942 died in an airplane crash in Utah while on his way from Denver to Nevada to give advice and protection to the employees of an essential industry. Mr. Cummings was associate professor in the department of medicine, University of Colorado School of Medicine, Denver, and was made director of a division of industrial hygiene created in 1937 at the medical school. While teaching chemical engineering at the Massachusetts Institute of Technology, Cambridge, Mr. Cummings developed pulmonary tuberculosis. He went to Saranac Lake, N. Y., for treatment and entered the Saranac Laboratory about 1926 for the study of tuberculosis as a research chemist, later being appointed assistant director. In 1932 he organized a field division of the Saranac Laboratory and became its director. During this entire period until the time of his death Mr. Cummings was active in forwarding the knowledge on industrial diseases. He assisted in setting up a laboratory of industrial toxicology at the University of Colorado School of Medicine and rehabilitation clinic in the Colorado General Hospital. He was an organizer and president of the American Industrial Hygiene Association.

FLORIDA

Graduate Short Course.—The annual graduate short course sponsored by the Florida Medical Association was held in Jacksonville, June 19-24. Speakers included:

Dr. Eugene A. Stead Jr., Atlanta, Ga., medicine.
Dr. Samuel F. Ravenel, Greensboro, N. C., pediatrics.
Dr. Oren Moore, Charlotte, N. C., obstetrics.
Dr. Robert L. Sanders, Memphis, Tenn., surgery.
Dr. Clayton T. Beecham, Philadelphia, gynecology.

State Medical Election.—Dr. Shaler Richardson, Jacksonville, was chosen president-elect of the Florida Medical Association at its recent annual meeting, and Dr. John R. Boling, Tampa, was inducted into the presidency. Other officers are Drs. Whitman C. McConnell, St. Petersburg, Horace A. Day, Orlando, and Robert D. Ferguson, Ocala, vice presidents; Robert B. McIver, Jacksonville, is secretary-treasurer, and Stewart G. Thompson, D.P.H., Jacksonville, managing director. Appointment of Dr. Homer L. Pearson of Miami as editor of the *Journal of the Florida Medical Association* was reported in THE JOURNAL, June 3, page 367.

GEORGIA

Dr. Kelly Returns as Dean.—On July 1 Dr. G. Lombard Kelly, who has been Secretary of the Council on Medical Service and Public Relations of the American Medical Association under a six months leave granted by the University of Georgia School of Medicine, Augusta, returned to the medical school as dean and professor of anatomy.

ILLINOIS

Physician Outlives Life Expectancy.—Dr. John H. Burlingame, Evanston, formerly of Cherokee, Iowa, who observed his ninety-sixth birthday on March 8, was presented with a check for $1,273 by the Union Central Life Insurance Company, June 22. In presenting the check, officials said that he was "one man in a hundred thousand," having outlived the expectancy of the company's policy. Dr. Burlingame, who graduated at Rush Medical College in 1878, retired in 1927. He practiced in Cherokee for forty-seven years and served ten years as mayor.

Chicago

Personal.—George Peck, formerly assistant superintendent of Michael Reese Hospital, was recently appointed superintendent of the Illinois Eye and Ear Infirmary, succeeding Dr. John B. Cipriani.

Special Society Elections.—Dr. Charles M. Drueck Jr. was installed as president of the Chicago Society of Industrial Medicine and Surgery, Dr. J. Daniel Willems as vice president and Dr. Frank P. Hammond as secretary-treasurer.—Dr. Lester M. Wieder is president of the Chicago Dermatological Society, Dr. Frederick R. Schmidt vice president and Dr. Marcus R. Caro secretary-treasurer.

INDIANA

Personal.—Dr. Frank E. Wiedemann, Terre Haute, recently observed his fiftieth anniversary in the practice of medicine.—Dr. John William Herr, formerly of Millhousen, has been named health commissioner of Posey County to fill the unexpired term of Dr. William E. Jenkinson, resigned.

Physician Goes to Nigeria as Medical Missionary.—Dr. and Mrs. Howard A. Bosler, New Paris, recently sailed for Nigeria, where they have taken work as medical missionaries. According to the *Journal* of the Indiana State Medical Association Dr. Bosler will be in charge of an area covering 150 miles, which includes two general hospitals, a number of first aid stations and a large leper colony. The physician and his wife expect to return in four years. This is said to be the third trip to Africa for Dr. and Mrs. Bosler.

IOWA

Report on Use of Serum or Plasma.—The division of preventable diseases of the Iowa State Department of Health, under the direction of Dr. Carl F. Jordan, Des Moines, has issued a report concerning the use of human serum and plasma during a limited period through which its Serum-Plasma Center has functioned. During 1943 and the first four months of 1944 case reports totaled 214, of which 165 contained needed information. In the series of 165, accidental injuries, including burns, accounted for 39 cases; 34 were due to complications of pregnancy and 92 to surgical conditions. In 113 instances (68.5 per cent) the result of use of serum or plasma was stated as "good." Fatalities in the group of 165 numbered 28, a case fatality of 17 per cent.

KANSAS

Changes in Health Officers.—Dr. Edwin M. Ireland has been appointed health officer of Pratt County to succeed Dr. Ernest J. Beckner, who was transferred to Butler County. P. A. Surg. Thurman R. Laughbaum, U. S. Public Health Service, has been appointed health officer of Geary County to succeed Dr. Norman A. Burkett, Junction City, who has resigned to enter the Army.

MASSACHUSETTS

State Medical Election.—Dr. Reginald Fitz, Boston, was chosen president-elect of the Massachusetts Medical Society at its meeting in Boston, May 22-24. Dr. Elmer S. Bagnall, Groveland, was inducted into the presidency. Other officers include Drs. Sumner H. Remick, Waltham, vice president, Michael A. Tighe, Boston, secretary, and Eliot Hubbard Jr., Cambridge, treasurer.

Licenses Revoked.—The license of Dr. Harry J. Weintraub, Malden, was revoked by the state board of registration in medicine, May 17, because of gross misconduct in the practice of his profession. At the same meeting the board, for a similar reason, revoked the licenses of Drs. Louis L. Hoff, Holyoke, Ray D. Hester, West Warren, William D. Ducy, Brockton, and Ralph K. Coleman, Lowell.

Foundation for Experimental Biology Increases Staff.—Three new research members of the Worcester Foundation for Experimental Biology include Erwin Haas, Ph.D., University of Chicago; Robert P. Jacobsen, Ph.D., of the U. S. Public Health Service, and Oscar Hechter, M.S., of the University of Southern California. According to *Science* Dr. Haas's work is primarily in the field of respiratory enzymes. Dr. Jacobsen is a steroid chemist, and Dr. Hechter's contributions have been primarily in endocrinology (THE JOURNAL, May 13, p. 160).

MICHIGAN

Fellowships in Pathology.—Mount Carmel Mercy Hospital, Detroit, has made available $2,000 annually to the city board of education to be used to establish fellowships for young physicians specializing in pathology. The fellowships are available to Wayne University students, and it was proposed that students holding these fellowships register at the Wayne University Graduate School and qualify for the master's degree.

Memorial to Physician.—Citizens of Saugatuck have raised a fund to finance the erection of a memorial to the late Dr. Robert J. Walker. The memorial will be erected in the southeast section of Butler Park, in the vicinity of which Dr. Walker spent a great part of his life. It will consist of a drinking fountain bordered by five concrete slabs reaching out to the sides forming a half circle, representing the five decades of service of Dr. Walker to the community.

Licenses Revoked.—The licenses to practice medicine of Drs. Martin B. Robinson and Fred W. Thomas, both of Detroit, have been revoked, newspapers reported June 16. According to the Detroit *News*, Dr. Robinson was convicted in Wayne Circuit Court of conspiracy to obstruct justice and was sentenced to three to five years in the state prison. His appeal to the Michigan Supreme Court was denied. The report stated that the physician's arrest and conviction resulted from the grand jury investigation of graft in Wayne County. Dr. Robinson recently went into federal court on a writ of habeas corpus, claiming that his constitutional rights had been violated and that he had been convicted illegally. This phase of the case is pending, and he is held temporarily in the county jail. Dr. Thomas was convicted in federal court of violating the Espionage Act as an alleged member of a Nazi spy ring in Detroit and was sentenced to serve sixteen years in federal prison. An appeal from the conviction has been filed (THE JOURNAL, April 1, p. 1000).

NEW JERSEY

Rutgers Research Council.—A research council has been established at Rutgers University, New Brunswick, to promote research in all departments of the university. William H. Cole, Ph.D., since 1928 professor of physiology and biochemistry at Rutgers, has been appointed director of the council and will serve in a staff relationship to deans, heads of departments and members of the faculty concerning the research programs. He will represent the university in developing reciprocal arrangements with governmental, industrial and business and professional institutions outside the university. According to *Science* a special research fund has been placed at the disposal of the council and applications for grants for next year are now being considered.

Philip Levine Joins Ortho Research Foundation.—Dr. Philip Levine, since 1935 bacteriologist and serologist of Newark Beth Israel Hospital, Newark, has been appointed director of the biologic division of the Ortho Research Foundation, Linden. Dr. Levine graduated at Cornell University Medical College, New York, in 1923. For a time he served as assistant at the Rockefeller Institute and for a number of years on the faculty of the University of Wisconsin. The Ortho Research Foundation was established January 17 by Ortho Products, Inc., Linden. For the present it will be located with the new research division of the company. The foundation will consider requests from academic centers for grants twice annually, April 1 and October 1. The requests should be accompanied with an outline of the study. The organization of the foundation was one of several steps taken by Ortho Products, Inc., to broaden its program in the various phases of human fertility. Among its studies will be vaginal infections and infestations, toxemia of pregnancy, multitudinous problems of menstruation, physiologic imbalances in pregnancy and psychosomatic problems in gynecology. Dr. Clair E. Folsome, New York, is director of research for the foundation.

NEW YORK

Graduate Lectures.—Dr. Nathan P. Sears, Syracuse, will discuss "Gynecology in General Practice" before the Ontario County Medical Society in Geneva, July 11. Drs. Francis R. Irving and Charles A. Lippincott, both of Syracuse, discussed "Caudal Anesthesia in Obstetrics." The lectures are a part of a graduate series in obstetrics and gynecology sponsored by the state medical society and the state department of health.

Sale of Vitamin Tablets Curbed.—Attorney General Nathaniel L. Goldstein ruled on June 23 that vitamins, when listed in the official United States Pharmacopeia or National Formulary, were drugs and could be sold retail only by registered pharmacists, drug stores and registered stores. According to the New York *Times*, the action may lead to a court test or a drive at the next session of the legislature for an amendment to the law to permit general retail sale because of the thousands of stores, including department stores, which have been selling concentrated vitamins. Mr. Goldstein gave the ruling in response to a letter, June 9, in which Leslie C. Jayne, secretary of the state board of pharmacy, asked

> whether vitamin products in concentrated form, that is pills, tablets, capsules and drops, come under the classification of drugs, as provided in article 51, Education (pharmacy) Law.
>
> Is their sale restricted to places licensed by the New York State Board of Pharmacy?

Dr. Jayne, in his letter, informed the attorney general that vitamins are articles recognized in the official United States Pharmacopeia, there appearing in the Pharmacopeia monograms setting forth the standards for vitamins A, B_1, B_2 or G, C and D and preparations containing these vitamins. Mr. Goldstein said that his opinion was concerned only with vitamins in concentrated form, as distinguished from their natural state as found in vegetables, meat and other articles of normal diet. In his reply Mr. Goldstein stated that vitamins are not proprietary medicine.

A later report in the *Times* indicated that grocers throughout the state were protesting the ruling because of the fact that it would give drug stores a "virtual monopoly" in New York on a business that amounts throughout the nation to $250,000,000 a year.

New York City

New Boric Acid Labeling Effective September 15.—On June 10 the New York City board of health announced that the enforcement of the new labeling requirements for boric acid had been postponed for a period of three months "to avoid confusion," it is reported. The enforcement date will be September 15 instead of June 15 (THE JOURNAL, June 17, p. 505).

Camp Nyda for the Diabetic Opens.—On July 3 Camp Nyda, a camp for diabetic boys and girls at Walkill, was opened for its ninth consecutive season under the auspices of the New York Diabetes Association. Dr. Frederick W. Williams, a director of the association, is in charge of the medical department of the camp. Any one wishing to send funds to assist in the project may address donations to the New York Diabetes Association, 2 East 103d Street. According to the New York *Times*, at least $7,365 is needed to send 100 children to the camp for a two weeks vacation. It costs about $30 a week a child to finance special medical care, rigid diet requirements and the other special attentions. Camp Nyda is the only free diabetic camp for children in the New York area.

Biologic and Pathologic Research Center Planned.—Postwar plans of the New York Zoological Society include the construction of a $200,000 biologic and pathologic research center at or near the Bronx Zoo, it is reported. Forty-three fellows of the society, attending a meeting at which the announcement was made, gave wholehearted support to the project. The new facilities would include studies of animal behavior, infection and cancer. Only animals that become sick will be used for experimental purposes, it was stated. The center will be open twenty-four hours a day and will be available to students in medical centers and universities. Tentative plans call for a two story building consisting of laboratories for research in chemistry, biology, bacteriology, parasitology and physiology. According to an announcement of Fairfield Osborn, president of the New York Zoological Society, the plan is unique and it is believed to be the first time that any zoo has tried to collaborate so closely with science. In commenting on the plan, Dr. Francisco Duran-Reynals, associate professor of bacteriology at Yale University School of Medicine, New Haven, said "The program outlined could best be carried out by creating an Institute for the Comparative Study of Infection, or the Institute of Comparative Pathology, as a branch of the New York Zoological Society. The institute would take advantage of the animal resources of the Bronx Park and the Aquarium, and of the zoological and technical skills on which these resources are dependent."

Dr. Moorhead Retires as Medical Director of Transit System.—On August 1, after a month's vacation, Dr. John J. Moorhead will retire as medical director of the New York City Transit System. He was medical director of the Interborough Rapid Transit system for thirty-six years and with the unification became director four years ago of the city transit system, according to the New York *Times*. Dr. Moorhead will be 70 years old July 15. On Dec. 7, 1941 Dr.

Moorhead, professor of clinical surgery at New York Post-Graduate Medical School and Hospital, Columbia University, was lecturing to a group of physicians in Honolulu when the Japanese attacked. He immediately organized surgical teams for operative treatment of the wounded and remained in Hawaii during the emergency on active duty as a colonel in the medical corps.

OREGON

The Sommer Memorial Lectures.—Dr. Alexis F. Hartmann, professor of pediatrics, St. Louis University School of Medicine, delivered the Ernst A. Sommer Memorial Lectures under the auspices of the University of Oregon Alumni Association, June 15-17, in Portland. The titles of his talks were "Medical Emergencies, with Emphasis on the Recognition and Treatment of Severe Disturbances of Metabolism (Acidosis, Alkalosis, Dehydration, Anhydremia and Edema)," "Fluid Administration, Parenteral Feeding and Oral Feeding in the Presence of Severe Gastrointestinal Symptoms" and "Principles of Diagnosis and Management of Severe Infections: Sepsis of Lateral Sinus Phlebitis; Meningitis."

PENNSYLVANIA

Personal.—Dr. Henry B. Davis, Lancaster, was elected president of the Pennsylvania Radiological Society at its recent meeting in Altoona.

Philadelphia

Schireson Indicted in Fee Fraud.—Dr. Henry J. Schireson was indicted by the grand jury June 27 on charges of fraudulently obtaining fees from a patient, according to the Philadelphia *Inquirer*. It was stated that the principal witness against the physician was John C. D'Alessandro, a waiter, who testified that Dr. Schireson obtained $250 from him during last September and October to perform an operation "on the strength of representations that he was on the staff of naval hospital." The *Inquirer* stated that two true bills were returned against the defendant, both of which were handed up to Judge Frank Smith in Quarter Sessions Court, where Dr. Schireson will be listed for trial in the early fall.

WEST VIRGINIA

District Meeting.—The Sixth Councilor District of the West Virginia State Medical Association will hold its annual conference at Ashford General Hospital, White Sulphur Springs, July 15-16. The district embraces the medical societies of Kanawha, Boone, Fayette, Raleigh and Greenbrier Valley. Among the speakers will be:

Major Edward N. Pleasants, M. C., Wartime Neuropsychiatry.
Capt. John W. Riley, M. C., Hanging Casts in the Treatment of Fractures of the Humerus.
Lieut. Col. John Y. Pennock and Major William A. Antopol, M. C., Lupus Erythematosus Disseminatus.
Major George C. Prather, M. C., Genitourinary Injuries of Warfare.
Major Ralph H. Kunstadter, M. C., Coccidioidomycosis of the Lung.
Major Robert P. Kelly Jr., M. C., Colles' Fractures; Technic of Reduction.
Capt. Frederick W. Cooper Jr., M. C., Penicillin Therapy.

GENERAL

Dr. Ferrell Named Medical Director of Markle Foundation.—Dr. John A. Ferrell, since 1927 associate director of the International Health Division of the Rockefeller Foundation, has been appointed medical director of the John and Mary R. Markle Foundation for research in medical and physical sciences in the United States and Canada. The appointment was effective July 1.

Leslie Dana Medal to Go to Linda Neville.—Miss Linda Neville, founder of the Kentucky Society for the Prevention of Blindness and for forty years engaged in activities to aid the blind, has been announced as the 1944 recipient of the Leslie Dana Gold Medal awarded annually for achievements in the prevention of blindness and the conservation of vision. Miss Neville was chosen by the St. Louis Society for the Blind, through which the medal is offered by Mr. Leslie Dana of St. Louis. The award is given on the recommendation of the Association for Research in Ophthalmology. Miss Neville was born in Lexington, Ky., in the home which has served as the headquarters for her activities for the prevention of blindness. She has been active in "lobbying" for legislation to assist the blind. Since 1934 the state legislature has appropriated money to supplement her private fund, starting with $1,000 and increasing the annual amount to $2,500 in 1935 and thereafter. The fund assists in caring for the blind in hospitals, pays railroad fares and purchases glasses and artificial eyes. Miss Neville was once honored by the Columbia Broadcasting System with the dramatization of her life on a coast to coast network and presented with a medal for her "outstanding qualities as a humanitarian."

Research Fellowships Awarded.—Three of four fellowships entrusted to the committee on medical education of the New York Academy of Medicine have been awarded. The fellowships were provided by Charles Mayer of New York and consist of $2,000 each. They went to Dr. Harry Goldblatt, associate director of the Institute of Pathology, Western Reserve University School of Medicine, Cleveland, and Philip Handler, Ph.D., associate in physiology and nutrition, Duke University School of Medicine, Durham, N. C., for work on "use of choline and other lipotropic factors in the prevention and treatment of fatty infiltration of the liver and hepatic insufficiency." Dr. Richard Lewisohn, cancer research laboratory of the Mount Sinai Hospital, New York, was granted a fellowship for work on "action of ingested choline, lecithin, methionine and inositol on precancerous lesions and disorders associated with neoplastic diseases." John R. Murlin, Sc.D., professor of physiology, University of Rochester, N. Y., received a fellowship for research on "effects of riboflavin, certain amino acids, and casein on the development and growth of cancer." The committee on medical education did not receive a satisfactory application for the fourth subject provided for under the fellowships, and no award was made for a study "of the relationship between precancerous lesions of the mouth, hepatic insufficiency and gastrointestinal disorders."

Sugar Research Foundation Awards Grants.—On June 6 the Sugar Research Foundation, New York, announced five grants totaling $104,100 for studies on various phases of sugar research. Previously a fund of $125,000 was awarded to the Massachusetts Institute of Technology, Cambridge, for fundamental research and development of industrial uses of sugar. The recent grants include the following:

Ancel B. Keys, Ph.D., professor of physiologic hygiene, University of Minnesota, Minneapolis, $36,000, need and comparison of carbohydrates.
Dr. Julian D. Boyd, associate professor of pediatrics, State University of Iowa College of Medicine, Iowa City, $21,500, dental caries in children.
Dr. Frederick J. Stare, assistant professor of nutrition, Harvard Medical School, and Alfred Le Roy Johnson, D.M.D., dean, School of Dental Medicine, Harvard University, both of Boston, $25,000, dental caries, using experimental animals.
Melville L. Wolfrom, Ph.D., professor of chemistry, Ohio State University, Columbus, $18,000, study of beet and cane molasses for industrial fermentations and development of uses in medicine.
Carl A. Neuberg, research professor of chemistry, Washington Square College, New York University, $3,600, sugar osones.

At the dinner at which the awards were made, Dr. Keys stated that his staff had selected 24 volunteers from conscientious objector camps who were physically equipped to undergo rigid tests at the laboratory. The services of these men will be used in studying the metabolism of sugar and its relationship to vitamins in the human system. Up to this time experiments along these lines have been conducted almost exclusively with animal subjects. By employing conscientious objectors, students, soldiers and hospital patients for his experiments, Dr. Keys expects to reach "quantitative answers applicable to man" which can be obtained only by researches on man.

Special Society Elections.—Dr. Charles M. Hendricks, El Paso, Texas, was chosen president-elect of the American College of Chest Physicians during its annual meeting in Chicago, June 10-12, and Dr. Jay Arthur Myers, Minneapolis, was installed as president. Other officers include Dr. Richard H. Overholt, Brookline, Mass., and Brig. Gen. Shelley U. Marietta, M. C., vice presidents, and Dr. Paul H. Holinger, Chicago, secretary-treasurer. Mr. Murray Kornfeld, Chicago, is the executive secretary.——Dr. Lowell S. Goin, Los Angeles, was chosen president of the American College of Radiology at its meeting in the Stevens Hotel, Chicago, June 14. Dr. Edgar P. McNamee, Cleveland, was named vice president and Dr. Hollis E. Potter, Chicago, treasurer. Mr. Mac F. Cahal, Dallas, is the executive secretary.——Dr. Alexander R. Stevens, New York, was chosen president of the American Association of Genito-Urinary Surgeons at its annual meeting in June in Chicago, Dr. Clarence R. O'Crowley, Newark, N. J., was named vice president and Dr. Charles C. Higgins, Cleveland, was reelected secretary-treasurer. The Keyes Memorial Medal of the association was awarded to Dr. Henry G. Bugbee, New York, for his contributions to urology.——Dr. Fuller Albright, Boston, was chosen president-elect of the Association for the Study of Internal Secretions at its annual meeting in Chicago, June 12-13, and Carl R. Moore, Ph.D., Chicago, was installed as president. Dr. Willard O. Thompson, Chicago, is vice president and Dr. Henry H. Turner, Oklahoma City, secretary-treasurer. The 1945 annual meeting will be held the Tuesday before the meeting of the American Medical Association in New York.——Dr. Albert C. Furstenberg, Ann Arbor, Mich., was chosen president of the American Laryngological, Rhinological and Otological Society at its annual meeting, June 9-10, in New York and Dr. Stewart Nash, Rochester, N. Y., was reelected secretary.——New officers of the American Medi-

cal Women's Association chosen at its annual meeting in Chicago, June 10-11, are Drs. Kate Savage Zerfoss, Nashville, Tenn., president-elect; Alice Stone Woolley, Poughkeepsie, N. Y., president; Carroll C. L. Birch, Chicago, Margaret Virginia Beyer, Sykesville, Md., and Mary B. Campbell, Detroit, vice presidents; Isabel M. Scharnagel, New York, secretary, and Mary Riggs Noble, Bowmansdale, Pa., treasurer.——Dr. Edward Sterling Nichol, Miami, Fla., was chosen president of the American Therapeutic Society at its meeting in Chicago, June 10, and Drs. Thomas J. Coogan, Chicago, and Charles L. Hartsock, Cleveland, were named vice presidents. Dr. Oscar B. Hunter, Washington, D. C., was reelected secretary.

LATIN AMERICA

Health Activities in Latin America.—*Report of Inter-American Health Service in Paraguay.*—A report has been published covering the first two years of operation of the Inter-American Cooperative Health Service in Paraguay. Appearing in the *Newsletter* of the Health and Sanitation Division of the Office of the Coordinator of Inter-American Affairs, the report covers the two year period from 1942 to 1944. One of the first undertakings of the cooperative health service in Paraguay was the construction of a large building in Ansunción to provide office space for the ministry of health, the director of the department of public welfare and the director of the department of hygiene, as well as space for a number of the divisions of the department of hygiene and the principal health center for Asunción. The health center section of the building will provide clinics for general medicine, tuberculosis, maternal and child hygiene, syphilis and skin, dentistry and eye, ear, nose and throat. A large public health laboratory will also be housed in the building. This laboratory will perform all bacteriologic and serologic examinations and analysis for the various divisions of the ministry of health as well as for the new health center. The building will also house the pharmacy of the ministry of health. The building contract for construction was let during November 1942. By May 1944 the entire project was over three-fourths finished. It is estimated that the building will be ready for operation during the latter part of 1944. The widespread program includes the establishment of five health centers in five localities, four of which either share a building with a hospital or are connected with the hospital by covered passageways. In each of these four instances the laboratory, pharmacy and x-ray section are built in the health center, designed to serve both institutions. This combined use of personnel and facilities was particularly practical in Paraguay, not only in terms of good public health procedure but because of the scarcity of equipment and the limited number of available medical personnel. The centers are in the Barrio Obrero section, Asunción; Encarnación and Concepción. At the time of the report, construction was under way for a center at Villarrica and a second one in Asunción. In July 1942 Cooperative Health Service made plans to remodel extensively the Hospital National de Clinicas, the principal hospital in Paraguay operated under the supervision of the Academy of Medicine of the National University with funds provided by the ministry of public instruction and justice to serve as a general hospital and teaching institution of the academy of medicine. There are about 600 beds, and the clinics of the hospital serve an average of 500 ambulatory patients daily. The improvements included the installation of a safe water supply and sewerage system, rebuilding and equipping of the hospital kitchen, conversion of the present administration building into central hospital laboratory, screening, painting and renovating the entire hospital building and generally improving and increasing nursing instruction facilities in both the surgical and the medical sections of the hospital. The entire project was expected to be completed sometime in July. Additional construction for the care of the sick included a 100 bed tuberculosis sanatorium at Asunción, with provisions for future expansion into a 300 bed unit. At the present time facilities for treating tuberculosis are limited to 60 or 70 beds made available in the National Hospital de Clinicas. In 1941 the recorded death rate from tuberculosis in Asunción was 196 per hundred thousand persons. As a part of the plan the national government donated a large tract of land valued at $21,000 on the edge of the city as the site for the building, which by May 1944 was half-way completed. Accommodations call for 40 beds each for men and women and 20 beds for children. The Barrio Obrero Hospital in Asunción, started by a group of students of the Medical University Extension Association in 1936, was remodeled under the auspices of the cooperative health service and an addition erected to provide a combination 50 bed hospital and health center, with x-ray and laboratory sections to serve both units. The addition was completed during June 1943, and 18 hospital beds, together with all health center activities, were moved into the new section in order that the old part of the hospital might be changed into a health center. The hospital section contains 12 obstetric beds, a nursery with 12 bassinets, 17 surgical beds, 10 medical beds, 8 children's beds and 3 for isolation.

At the request of the minister of health during September 1942 and again during January 1944, Malcolm H. Soule, Sc.D., special consultant to the Coordinator of Inter-American Affairs and member of the medical advisory board of the Leonard Wood Memorial, visited the leper colony in Paraguay to study the social and medical needs. This 4,000 acre colony is located over 7 miles by an ox cart road from Sapucay. In September 1942 the number of patients totaled 386 in all stages of the disease. Dr. Soule recommended the construction of a 100 bed hospital at Sapucay, believing that because of the present inaccessibility of the colony a number of patients do not report the disease. An alternative was the construction of an adequate road to the existing colony. The latter project is soon to be started. In the meantime a brick plant has been built at the colony with the aid of ambulatory patients to manufacture bricks and tile for the proposed hospital. Dr. Manuel Gimenez Uriarte, who recently completed fourteen months of study of the disease in Rio de Janeiro on a scholarship provided by the Brazilian government, is director of the leper colony. As a result of the recommendation of Dr. Soule that children born to leprous parents be separated from the mother at once, a preventorium has been constructed, including five buildings with a 24 bed dormitory for boys, a similar one for girls, a 16 bed nursery building, an administration building, also housing the main dining room, and a small laundry building. During the first month of operation after it was completed in January 1944, 26 children from the ages of 9 months to 13 years were removed from the colony to the preventorium, of which Dr. Ovidio Miquel is medical director. Supporting Dr. Miquel and his staff is the Asociacion de Ayuda a los Lazaros y Defensa contra la Lepra, which has been instrumental in obtaining funds and clothing for the children in the preventorium. After his visit to the preventorium in January, Dr. Soule commented: The preventorium including the crèche, or nursery, is at this moment the envy of every individual associated with leprosy work. I know of no institution to equal it.

The construction of a laboratory in Asunción for the bacteriologic and chemical analyses of water and milk, and sewage, is another accomplishment of the service. The laboratory was set up in a section of the building recently completed by the ministry of health at the Instituto de Higiene with the Inter-American Cooperative Health Service furnishing the equipment and the maintenance. Dr. Domingo Sanjurjo is director and bacteriologist and Dr. Francisco Ocaris assistant. Since its establishment the laboratory has completed a systematic examination of all public and private water supplies.

The report discusses the training of professional and technical personnel, the provision of fellowship, the medical training for nurses, and scholarships for sanitary inspectors. Public health education activities are launched with a series of radio broadcasts by public health and private physicians. In December 1942 a special health week was observed by radio. From August through December 1942 thirty-two talks were given in which venereal disease, tuberculosis and cancer were particularly emphasized. During 1943 three senior medical students in the Faculty of Medical Sciences were employed as lecturers. Talks were given in schools, factories, health centers and other gathering places. In two months thirty-nine conferences were attended by more than 3,500 persons.

Mr. Charles G. Bennett was sent as a representative of the U. S. Bureau of Census to assist in the organization of the division of vital statistics in the ministry of health and in the training of local personnel. Medical journals and textbooks were supplied to the leading medical schools and hospitals in Paraguay. The report also includes mention of a special malaria survey in the Hernandarias region of the upper Parana River and included the study of a tract of land which the Paraguayan government is considering for the location of a resettlement colony.

CORRECTION

Chemotherapy of Burns.—In the article by Cope with this title in THE JOURNAL for June 24, in the first column on page 540, at the end of the third paragraph is the statement "For each per cent that the hematocrit is above the normal of 45, 50 cc. of plasma should be administered." This should have read "100 cc. of plasma should be administered."

Foreign Letters

LONDON

(From Our Regular Correspondent)

June 3, 1944.

The Rehabilitation of the Injured

A feature of the present war is the increased extent to which the government is concerning itself with measures to remedy its consequences. This may be regarded as an example of the present socialistic trend of British politics. In 1941 the Ministry of Labor and National Service started a scheme for the training and resettlement of disabled persons. This scheme had two objectives: (1) to help those who had suffered recent disablement—whether through war service, in air raids or from other causes—to take up employment of a kind suited to their disability and (2) to help those whose disability was of earlier date to prove their capacity for useful work and play their part in the war effort. Everything is done under the scheme to get disabled people into the kind of employment best suited to their disability. A representative of the ministry, known as the disablement rehabilitation officer, visits all hospitals and service establishments from which discharges on medical grounds take place and interviews any person who has a disablement and who needs advice and help to find suitable employment. He gets a report from the medical authorities as to the nature of the disablement and the kind of employment and training which seems most suitable. In amputation cases a special report is obtained from the limb fitting surgeon at the center where the artificial limb is provided.

Training for a new occupation is provided when necessary. A special residential center has been set up to assist in the return to work of men who, following a period of hospital or other medical treatment, are not fit to take up employment or full time vocational training. Its object is to restore confidence and mental and physical fitness through healthy indoor and outdoor occupation. Vocational training is obtained for all persons whose disablement prevents them from resuming their normal occupation. Suitably qualified persons whose educational careers have been interrupted by war service are given assistance to continue their education. Allowances of money for maintenance during training are paid according to a scale which takes into account the existence of wife and children. No such scheme for the rehabilitation of the injured has ever been in force in previous wars.

The Control of Cross Infection in Hospitals

The prevention of cross infection in hospitals has recently received much attention here. A subcommittee of the Medical Research Council, consisting of experts on the subject, has made an important report which deals principally with children's wards, where the danger is greatest. They point out that the risk of cross infection is serious unless there are sufficient isolation units and nurses trained in the prevention of infection. Children should not be admitted to a hospital for trivial complaints if this can be avoided, and they should not be retained longer than necessary. The large, open, undivided ward should now be considered obsolete; structural subdivision into smaller units is the modern tendency. Nearly half the beds in hospitals for children should be in individual "cells" with walls extending from floor to ceiling, and the remainder should be in small units. These allow distribution of patients according to medical hazards rather than according to age, separation of the known infected from the uninfected, and grouping together of infectious patients from a common environment.

Nurses should be allocated according to cross infection hazards, the report recommends. There is obvious risk in employing in a milk kitchen nurses who are also on outpatient or toilet duty, and in the not uncommon practice of employing "runners" between wards at night. The same considerations apply to other members of the staff and to arranging clinical courses for students. The admission of patients—particularly child, maternity and infectious cases—direct to open wards without preliminary examination is deplored in the report. The admitting medical officer should note the dates of previous infections, recent contacts and immunization. He should look for prodromal signs, nasal and aural discharges, tonsillitis, diarrhea and vomiting, skin disorders and similar evidence of infection. As soon as possible after admission, swabs should be taken from patients with upper respiratory infection, discharges or skin infections.

If "cell" accommodation is insufficient, selected patients should be nursed by the technic known as "bed isolation" or "barrier nursing," the report states. This technic should also be used in conjunction with cell isolation. Children should be immunized against diphtheria and whooping cough. As visitors may introduce infection, they should be limited and should not include children. They should wear masks and gowns. To control droplet infection, ventilation should be as free as possible, winter and summer, day and night, the committee declares. In doing surgical dressings or in feeding children under 1 year of age nurses should wear masks. To control dust borne infection, blankets and pillows should be gently handled. The bedclothes of 1 patient should not be placed on the bed of another or allowed to touch the floor. Impregnation of blankets with "technical white oil" reduces materially the number of bacteria scattered, it is stated. The floors of wards and passages, if of wood or covered with linoleum, should be treated with spindle oil. This prevents dust from rising during sweeping. Rubber, composition or concrete floors should be washed, vacuum cleaned or sprinkled with moist sawdust before sweeping. All dusters should be dampened with diluted "white fluid" (phenolic emulsion) before use. As dust is heavily contaminated with pathogenic bacteria, nurses should not undertake cleaning and ward maids should not undertake any nursing duties.

Rickets Not Increased in Spite of the War

It has been pointed out in previous letters that on the whole the health of the country has improved during the war. A report issued by the Ministry of Health shows that rickets, a disease of children at one time very prevalent in this country, has shown no increase during the war. It was comparatively rare before the war, but it was nevertheless possible, as the chief medical officer of the ministry states, that the downward trend of its incidence might have been checked. A "Report on the Incidence of Rickets in Wartime" by the British Pediatric Association shows that this has not occurred. The present position is regarded by the chief medical officer as due in no small measure to the efforts that have been made to maintain a high standard of nutrition in infants and young children by securing priorities for them in the foods and vitamin supplements essential for their growth and well being.

The investigation carried out by the British Pediatric Association included a clinical and x-ray examination of one wrist of 5,283 children between the ages of 3 and 18 months in twenty-three areas of Britain. The children were as far as possible well, having been selected from among those attending welfare centers or wartime nurseries. Of these only 106 showed x-ray evidence of rickets. A questionnaire was drawn up by Dr. Percy Stocks, medical statistician to the General Register Office and the Ministry of Health. He reports that the incidence of rickets shown radiologically in children between 3 and 18 months of age was 2.5 per cent in children up to the age of 6 months, 4 per cent during the first year of life and negligible after this. The clinicial diagnosis of rickets showed great variability in different parts of Britain, being completely absent in some small towns but as high as 61 per cent in Sheffield,

the center of the steel industries. The correlation between the clinical and the radiologic diagnosis was poor. Only a small proportion of the clinically positive cases were confirmed radiologically. It was suggested that this result, far from throwing doubt on the value of clinical diagnosis, may be interpreted as a failure of radiology to detect all cases of rickets. But this view is refuted by the fact that clinical diagnosis failed to pick out half the cases of active rickets diagnosed by radiology. There are difficulties in diagnosis by either method, especially in the healing stage, and there is as much subjective influence in the radiologist's opinion as in that of the clinical observer. The severe type of rickets with deforming bone changes has disappeared from Britain, and this fact involves some modification of the clinical conceptions of rickets. It is suggested that a disturbance of calcification sufficient to indicate active rickets in a roentgenogram but not detected clinically, may need a new terminology.

BRAZIL

(From Our Regular Correspondent)

May 20, 1944.

Vital Statistics of Rio de Janeiro and São Paulo

Provisional vital statistics for the first quarter of the present year (mostly summer in the Southern Hemisphere) are now available for the two largest cities of Brazil—Rio de Janeiro, the capital city, and São Paulo, the most important industrial center of the country. These two cities differ as to size, climate and composition of population, the dissimilarities explaining, at least in part, the differences in vital statistics. The present calculated population of Rio de Janeiro is 1,927,000 inhabitants, while that of São Paulo is 1,399,000. The latter city has a much cooler climate and a lower percentage of colored inhabitants. During the first quarter of 1944 the annual birth rates were 21.14 for Rio de Janeiro and 25.74 for São Paulo. The death rate from all causes for Rio de Janeiro was 16.48 and for São Paulo was 9.31. For the age group under 1 year, for Rio de Janeiro there was an infant mortality rate of 178 per thousand live births against an infant mortality rate of 98 per thousand live births in the same age group for São Paulo. Of the total number of deaths registered for Rio de Janeiro, 30.53 per cent, or 5.03 per thousand of population annually, were due to infectious and parasitic diseases and for São Paulo 20.99 per cent, or 1.95 per thousand population annually from the same causes. On the basis of the number of deaths registered during the first quarter of the year the annual death rates from the most important communicable diseases were respectively for Rio de Janeiro and São Paulo typhoid 3.49 and 3.22 per hundred thousand of population, whooping cough 17.43 and 10.29, diphtheria 4.92 and 3.64, tuberculosis 293 and 103, influenza 45.54 and 14.36, measles 11.90 and 3.22, dysentery 20.72 and 18.44 and leprosy 5.33 and 0.21. For the same period the number of deaths from diarrhea and enteritis in the age group under 2 years was 1,109 for Rio de Janeiro and 633 for São Paulo, or respectively 13.80 per cent and 14.59 per cent of the number of deaths from all causes, which corresponds to annual death rates of 228 and 138 per hundred thousand of population.

Brief News

Under the chairmanship of Dr. Fernando Herrera Ramos, a Uruguayan Congress of Medicine is now being held in Montevideo. Brazilian and Argentine physicians have been specially invited. The main subjects to be discussed are arterial hypertension and rheumatic diseases. Among the papers presented to the congress are those of Drs. Waldemar Berardinelli, Moacyr Alvaro, Mariano Castex, Bernardo Houssay, Nicolas Romano, Pedro Cossio Arrillaga, Tomás Mariante and Granados Garcia.

For the first time candidates are being subjected to special examinations to be registered as "practical optometrists" and authorized to sell, in all states of Brazil, spectacles with simple colored glasses, which have been sold up to now at almost every kind of store.

Dr. L. Pinheiro Guimarães has been appointed professor of pathology of the School of Medical Sciences of Rio de Janeiro. This school is independent of the University of Rio de Janeiro, where Dr. Pinheiro Guimarães began his teaching career.

The first South American Congress of Homeopathy was held recently at Porto Alegre, state of Rio Grande do Sul. One of the leading figures of this meeting was Dr. Ivano Duce of Uruguay. It is interesting to point out that the practice of homeopathy is not permitted in Argentina.

The Bahia Medical Association recently elected a new board of directors for the year 1944-1945. This board is composed of Drs. Adriano Pondé, Hosannah de Oliveira, Ezequiel da Costa, F. Carvalho Luz, Cicero A. da Silva, Domingos Saboia and Luis Cerqueira.

Dr. Madeira de Freitas, professor of medicine at the Fluminense Medical School of Niteroi, state of Rio de Janeiro, died recently at the age of 58. Besides teaching medicine, Dr. Madeira de Freitas was also an able writer whose books were highly appreciated in literary circles.

Dr. Nicolao Ciancio, a popular physician of the city of Rio de Janeiro, died recently at the age of 62. Dr. Ciancio, who was born in Italy, came to Rio de Janeiro with his parents, who died of yellow fever soon after their arrival. Overcoming many difficulties, young Ciancio struggled for his living, first as a newsboy, then as a newspaper reporter and finally as a journalist-physician. His column in the Rio de Janeiro *A Noite* was very popular, as he was the first doctor here to give medical information in the newspapers.

Dr. A. Murtinho Nobre, who had a large practice in Rio de Janeiro, died recently at the age of 65. After the death of Dr. Joaquim Murtinho, his uncle and the most famous of all homeopathic physicians of Brazil, twenty-five years ago, Dr. Murtinho Nobre was the leading homeopathist of the country.

Deaths

Dr. Helion Povoa, professor of pathology at the University of Rio de Janeiro, died recently at the age of 45. Dr. Povoa was considered one of the best professors of the medical school, where his intelligence, his culture, his enthusiasm for teaching and his integrity were greatly appreciated. Dr. Povoa was a member of the National Academy of Medicine, where he won several prizes for specialized monographs written in competition with older and more experienced colleagues. One of his topics was cancer, the subject of several special postgraduate courses that he gave. Among his many medical books the best known are a textbook of pathology and an introduction to medicine.

Marriages

PETER W. WHEELER, Haverhill, Mass., to Miss Mary E. McCarthy of Manchester, N. H., in May.

SARAH HULDAH HOOVER, Richmond, Va., to Mr. George R. Jones of Jacksonville, Fla., June 10.

RICHARD LOOMIS OLIVER, Raleigh, N. C., to Miss Frances Christine Biles of Troy, June 10.

EDGAR JAMES MAXWELL JR., Atlanta, Ga., to Miss Edna Earle Shank of Augusta recently.

HAROLD P. WEAVER, Slatington, Pa., to Miss Regina Ezerski of Pittsburgh, Nov. 26, 1943.

CHARLES W. STRATTON JR., Lee, Mass., to Miss Marita J. Dick of Worcester, June 3.

Deaths

John Thomas Murphy ✦ prominent roentgenologist of Toledo and for thirteen years secretary of the Section on Radiology of the American Medical Association, died in St. Vincent's Hospital, Toledo, June 15, aged 58.

Dr. Murphy was born in Toledo April 15, 1885. He graduated at the Medical College of Toledo University in 1906. After postgraduate work at Cook County Hospital in Chicago, Dr. Murphy returned to Toledo to become associated with the late Dr. Julius Jacobson. He later taught histology and pathology at his alma mater.

Early in his career, Dr. Murphy became interested in radiology. In 1917 he accepted an appointment as director of the department of radiology at St. Vincent's Hospital, holding the position until his death. He was consultant to the Lucas County Hospital.

A specialist certified by the American Board of Radiology, Inc., Dr. Murphy held membership in numerous organizations, including the American Radium Society and the Radiological Society of North America. He had served as president of the American College of Radiology, the American Roentgen Ray Society, of which he had also been secretary, and the Academy of Medicine of Toledo and Lucas County. He held the office for two terms for the Detroit Roentgen Ray and Radium Society. He was a fellow of the American College of Physicians and of the American College of Radiology.

Dr. Murphy had been secretary of the Section on Radiology of the American Medical Association since 1932. In 1941 he received a Certificate of Merit from the Scientific Exhibit of the Association for his display on bone tumors. In 1937 he, with his associate Dr. Clarence E. Hufford, received a silver plaque for their exhibit of 600 x-ray plates showing results of treatment in bone diseases at the fifth International Congress of Radiology in Chicago and in 1942 a gold medal from the American Academy of Orthopaedic Surgeons for an exhibit on bone pathology. In 1941 he delivered the Hickey Memorial Lecture of the Wayne County Medical Society, Detroit, on "Use of X-Ray in the Treatment of Carcinoma of the Skin."

Long before pilots needed licenses to fly, Dr. Murphy flew his own plane. He was acquainted with many of the early fliers and was a sponsor of the Civil Air Reserve in Toledo. He maintained an interest in athletics since his college days when he had been a member of the track team and was a member of the American Amateur Athletic Association and president of the Toledo Figure Skating Club.

Chief among his numerous contributions to the literature were Dermoid Cysts in the Thorax, 1922; Bodies in the Lumen of the Appendix, 1922; A Complicating Factor in the Diagnosis of Chronic Upper Abdominal Diseases, 1925; Intracranial Calcifications, 1928; Influence Affecting the Future of Roentgenology, 1933; Nonsuppurative Osteomyelitis, 1935, and Irradiation Therapy in Breast Cancer, 1936.

Frank Albert Burton ✦ San Diego, Calif.; Denver Homeopathic College, 1904; Denver and Gross College of Medicine, 1906; specialist certified by the American Board of Otolaryngology; member of the American Laryngological, Rhinological and Otological Society and the Pacific Coast Oto-Ophthalmological Society; fellow of the American College of Surgeons; on the staffs of the San Diego County General Hospital and Mercy Hospitals, San Diego, and the Scripps Memorial Hospital, La Jolla, where he died April 25, aged 71, of coronary thrombosis.

Albert Lucian Abbott, Covington, Ky.; Kentucky University Medical Department, Louisville, 1902; died April 24, aged 76, of myocarditis.

John Valdora Adams, Kelly, La.; College of Physicians and Surgeons, Dallas, 1905; died in the Caldwell Hospital, Columbia, April 13, aged 65, of hypertension.

Clarence Alonzo Aplin, Ames, Iowa; State University of Iowa College of Homeopathic Medicine, Iowa City, 1893; died April 5, aged 87, of pneumonia and hypertension.

David G. Austin, Laingsburg, Mich.; Detroit College of Medicine, 1894; died in the Edward W. Sparrow Hospital, Lansing, April 30, aged 82, of arteriosclerotic myocarditis.

Charles Marion Aves ✦ Houston, Texas; University of Texas School of Medicine, Galveston, 1907; fellow of the American College of Surgeons; professor of clinical surgery (honorary) at the Baylor University College of Medicine; a major in the medical corps of the U. S. Army, serving overseas during World War I; on the staffs of the Baytown Hospital, Baytown; Hermann Hospital and St. Joseph's Infirmary; medical director of the Humble Oil and Refining Company; died April 25, aged 62, of cerebral hemorrhage.

William Shirmer Barker, Clayton, Mo.; Missouri Medical College, St. Louis, 1890; formerly on the staff of the Bethesda General Hospital, St. Louis; died April 16, aged 80, of myocardial failure.

Omer Fouts Barnes, Arcola, Ill.; Kentucky School of Medicine, Louisville, 1890; served as mayor of Arcola; on the staff of the Douglas County Jarman Hospital, Tuscola; died April 18, aged 79, of coronary heart disease.

Conde Auguste Beucler, Tolo, Ore.; Keokuk (Iowa) Medical College, 1894; died in the Community Hospital, Medford, March 30, aged 75, of coronary occlusion.

Frank Probasco Bohn, Newberry, Mich.; Medical College of Indiana, Indianapolis, 1890; member of the Michigan State Medical Society; past president of the Luce County Medical Society; formerly village president and member of the school board; served three terms in Congress and two terms in the state senate; for twenty-two years chairman of the Luce County Republican Committee; for many years president of the Newberry State Bank; member of the board of the Newberry State Hospital from 1900 to 1920; died June 1, aged 77.

Joseph Aurelie Broussard, Port Arthur, Texas; College of Physicians and Surgeons, Memphis, 1911; member of the State Medical Association of Texas; on the staff of St. Mary's Hospital; died March 19, aged 59, of carcinoma of the prostate.

Joseph Addison Brown, Silex, Mo.; Hospital College of Medicine, Louisville, Ky., 1889; past president of the Lincoln County Medical Society; served as mayor of Silex; president and director of the Silex Savings Bank; partner, Silex Drug Company; died in the Missouri Baptist Hospital, St. Louis, April 12, aged 85, of senile dementia.

William M. Diamond, Dickson, Tenn.; University of Louisville (Ky.) Medical Department, 1890; served as magistrate for Dickson County; formerly on the staff of St. Thomas Hospital, Nashville; died April 11, aged 80.

James Frank Donaldson, Middleton, Mass.; Harvard Medical School, Boston, 1902; member of the Massachusetts Medical Society and the New England Pediatric Society; chief of medical staff, emeritus, Salem Hospital, and North Shore Babies' Hospital, Salem; died March 10, aged 66, of arteriosclerosis.

Henry Drey, Brooklyn; Long Island College Hospital, Brooklyn, 1920; member of the Medical Society of the State of New York; on the staff of the Lenox Hill Hospital, died April 4, aged 49, of hypertension.

George Field Enoch ✦ Philadelphia; University of the South Medical Department, Sewanee, Tenn, 1898; physician for the Philadelphia County Prison; served on the staff of the Frankford Hospital; died in the Graduate Hospital of the University of Pennsylvania, April 3, aged 67, of uremia.

James Joseph Fleming, New York; Yale University School of Medicine, New Haven, 1922; formerly assistant professor of clinical surgery at the New York Post-Graduate Medical School, Columbia University; member of the Medical Society of the State of New York; fellow of the American College of Surgeons; served as attending surgeon, New York City Department of Correction; assistant attending surgeon at the New York Post-Graduate Hospital, where he died April 16, aged 47.

Henry Francis Goeken, Baltimore; Hahnemann Medical College and Hospital of Philadelphia, 1921; member of the Medical Society of the State of Pennsylvania; served during World War I; formerly on the staff of the Hanover Hospital, Hanover, Pa.; died in St. Joseph's Hospital April 16, aged 52, of acute coronary occlusion.

Ralph Augustus Hatch ✦ Boston; Harvard Medical School, Boston, 1906; specialist certified by the American Board of Ophthalmology; member of the New England Ophthalmological Society; served during World War I; on the staffs of the Massachusetts Eye and Ear Infirmary, Massachusetts General, Children's and Boston State hospitals and the Florence Crittenton Home and Hospital; died in the Brooks Hospital, Brookline, April 1, aged 62.

Vernon Francis Kelly, Baltimore; University of Maryland School of Medicine, Baltimore, 1904; on the staffs of St. Agnes' and St. Joseph's hospitals; died in the Johns Hopkins Hospital, March 5, aged 60, of coronary occlusion.

Lincoln S. Lacy, Pittsfield, Ill.; Missouri Medical College, St. Louis, 1898; member of the Illinois State Medical Society; served several terms on the city council; on the staff of the Illini Community Hospital; died April 10, aged 83, of carcinoma of the liver.

Lucius Edgar Lawler, Miami, Fla.; Atlanta College of Physicians and Surgeons, 1901; died April 8, aged 71, of aortic stenosis.

Alice Farnham Leader, Winter Park, Fla.; Woman's Medical College of Pennsylvania, Philadelphia, 1884; died in the Florida Sanitarium and Hospital, Orlando, April 20, aged 81, of myocardial infarction.

Oscar Clare Lohr, Churdan, Iowa; Barnes Medical College, St. Louis, 1896; member of the Iowa State Medical Society; vice president of the First State Bank; died in Jefferson April 9, aged 71, of coronary thrombosis.

Harold Hamilton Longsdorf, Dickinson, Pa.; College of Physicians and Surgeons, Baltimore, 1882; member of the Medical Society of the State of Pennsylvania; served as school director and past president of the Cumberland County School Directors Association; physician for the county prison for many years; a director of the Farmers Trust Company at Carlisle; on the staff of the Carlisle Hospital, Carlisle; died April 28, aged 85, of cerebral hemorrhage.

Arthur Hubert Longstreet, Brooklyn; University of Vermont College of Medicine, Burlington, 1900; member of the Medical Society of the State of New York; served on the staffs of the Norwegian, Victory Memorial and Bay Ridge hospitals; died April 4, aged 71, of heart disease.

George Davis Lowry ✠ Detroit; College of Physicians and Surgeons, New York, 1894; member of the Ohio State Medical Association; formerly a member of the staff of Peiping Union Medical College and of the Methodist Hospital in Peking, China; served as physician at the Ohio Wesleyan University, Delaware, Ohio; died in the Toledo Hospital, Toledo, Ohio, April 9, aged 76, of a fractured skull received in an automobile accident.

Edward Joseph Lynch, Detroit; St. Louis University School of Medicine, 1913; member of the Michigan State Medical Society; served in the medical corps of the U. S. Army during World War I; on the staff of St. Joseph's Mercy Hospital; died April 18, aged 59, of cerebral hemorrhage.

Frederick L. Lyons, Boston (licensed in Massachusetts in 1909); served on the staffs of the Carney Hospital and St. Elizabeth's Hospital, where he died April 28, aged 58, of coronary thrombosis.

James Lewis McAuslan, North Grafton, Mass.; Harvard Medical School, Boston, 1899; member of the Massachusetts Medical Society, American Psychiatric Association and the New England Society of Psychiatry; specialist certified by the American Board of Psychiatry and Neurology, Inc.; served during World War I; senior physician at the Grafton State Hospital from 1919 to 1943; died in Boston March 22, aged 69, of angina pectoris.

John Thomas McFarlin, Williams, Ind.; University of Louisville (Ky.) Medical Department, 1894; member of the Indiana State Medical Association; past president of the Lawrence County Medical Society; served during World War I; died in the Dunn Memorial Hospital, Bedford, April 18, aged 76, of chronic myocarditis.

Frank Lynn McGahey, Calhoun City, Miss.; University of Tennessee College of Medicine, Memphis, 1916; member of the Mississippi State Medical Association; past president of the Northeast Mississippi Thirteen Counties Medical Society; since June 1, 1942 director of Grenada County Health Department; formerly health officer of Calhoun County; died in a hospital at Memphis, Tenn., April 22, aged 51, of cerebral hemorrhage.

Frank Wickham Mallalieu, Jersey City, N. J.; Columbia University College of Physicians and Surgeons, New York, 1896; for many years associated with the child welfare service of the Mother's Institute; found dead April 12, aged 75, of heart disease.

August Albert Meyer, Alma, Kan.; University Medical College of Kansas City, Mo., 1904; also a pharmacist; county health officer; died March 19, aged 67, of carcinoma.

Gustavus Adolphus Meyer, Springfield, Mo.; St. Louis College of Physicians and Surgeons, 1895; Barnes Medical College, St. Louis, 1897; died April 2, aged 81, of coronary thrombosis and bronchopneumonia.

Gilbert Bertram Meyers ✠ Pittsburgh; University of Pittsburgh School of Medicine, 1917; assistant professor of medicine at his alma mater; served as a lieutenant in the medical corps of the U. S. Navy during World War I; senior staff member of the Mercy Hospital, where he died April 9, aged 54, of cerebral hemorrhage.

William Rankin Miller, Danville, Ill.; Western Pennsylvania Medical College, Pittsburgh, 1892; for seven years contract physician for the Pittsburgh Steel Company; died in the Lakeview Hospital April 5, aged 77, of cerebral hemorrhage.

Landon Clay Moore, Reynolds, Ill.; Rush Medical College, Chicago, 1886; member of the Illinois State Medical Society; member of the "Fifty Year Club" of the state society; formerly on the staff of St. Luke's Hospital, Davenport, Iowa; died in the Mercy Hospital, Davenport, April 10, aged 84, of uremia and chronic nephritis.

Amanda Taylor Norris, Baltimore; Woman's Medical College of Pennsylvania, Philadelphia, 1880; member of the Medical and Chirurgical Faculty of Maryland; died in a nursing home in Pikesville April 27, aged 95, of arteriosclerosis.

John Palkovich, Hammond, Ind.; University of Kolozsvar, Hungary, 1894; died April 21, aged 81, of acute dilatation of the heart and myocarditis.

Joseph Baxter Patrick, Brunswick, Ga.; Kentucky University Medical Department, Louisville, 1904; member of the Mississippi State Medical Association; on the staff of the J. A. Jones Construction Company Clinic and chief medical inspector for the company; died April 5, aged 64, of heart disease.

Hans Arthur Paulsen, Chicago; Chicago College of Medicine and Surgery, 1912; member of the Illinois State Medical Society; on the courtesy staff, Martha Washington Hospital, where he died April 11, aged 58, of acute nephritis.

Percival Pearce, Waukegan, Ill.; College of Physicians and Surgeons of Chicago, 1896; for many years a druggist; died May 16, aged 76, of cerebral hemorrhage.

Thomas Francis Xavier Phelan, Chicago; Loyola University School of Medicine, Chicago, 1917; on the staff of St. Anne's Hospital; died May 10, aged 58, of coronary thrombosis.

Edward Ferguson Pickford ✠ Washington, D. C.; Albany (N. Y.) Medical College, 1895; served as vice president of the City Bank; on the courtesy staffs of all local hospitals; died May 6, aged 75, of cerebral hemorrhage.

Eugene H. Pitts ✠ Sacramento, Calif.; Chattanooga (Tenn.) Medical College, 1900; served as president of the Eugenics Society of Northern California; honorary member, Sociedad Eugenesia de Mexico; member of the American Genetic Association and the Eugenics Society of Great Britain and London; on the staffs of the Sutter General and Mercy hospitals; for many years a director of the Y. M. C. A.; died May 1, aged 73.

Archie Leonard Popplewell, Anton, Texas; Baylor University College of Medicine, Dallas, 1912; member of the State Medical Association of Texas; died in the Littlefield Hospital and Clinic, Littlefield, March 22, aged 56, of coronary thrombosis.

Edwards Hyndshaw Porter ✠ Tiffin, Ohio; Detroit College of Medicine, 1900; member of the American Academy of Ophthalmology and Otolaryngology; fellow of the American College of Surgeons; past president of the Northwestern Ohio Medical Association; served during World War I; chief of staff, Mercy Hospital, where he died May 14, aged 71, of coronary occlusion.

James Miller Quinn ✠ Passed Assistant Surgeon, Lieutenant Commander, U. S. Navy, retired, Beckley, W. Va.; Baltimore Medical College, 1911; U. S. Naval Medical School; entered the U. S. Navy in 1917; served during World War I; retired Dec. 5, 1921; died January 18, aged 55.

John F. Reid, Buchanan, Ga.; Atlanta Medical College, 1892; member of the Medical Association of Georgia; served as mayor of Buchanan; represented Haralson County in the state legislature for two terms; county treasurer; died in Carrollton April 3, aged 75, of cardiovascular renal disease.

Fred Rice, Lancaster, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1900; died in St. Joseph's Hospital April 23, aged 68, of a skull fracture and injuries received when struck by a truck.

Nelson Guernsey Richmond, Fredonia, N. Y.; Bellevue Hospital Medical College, New York, 1880; member of the Medical Society of the State of New York; died in the Florida Sanitarium and Hospital, Orlando, April 18, aged 87, of lobar pneumonia.

Norman Roberts ✠ Surgeon, U. S. Public Health Service, retired, West Chester, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1897; Hahnemann Medical College and Hospital of Philadelphia, 1898; U. S. Naval Medical School, 1922; appointed an assistant surgeon in the U. S. Public Health Service on July 25, 1903 and retired on Dec. 9, 1930; died in the Chester County Hospital April 18, aged 67, of acute congestive cardiac failure.

Leo Saporito, Kaplan, La.; Medical Department of Tulane University of Louisiana, New Orleans, 1908; member of the Louisiana State Medical Society; a member of the draft board during World War I; formerly coroner of Vermilion Parish; died April 13, aged 61, of coronary thrombosis.

Raymond J. Schmid ✠ New Ulm, Texas; University Medical College of Kansas City, Mo., 1901; past president

of the Austin County Medical Society; died March 22, aged 67.

John William Schulze, Minneapolis; University of Minnesota Medical School, Minneapolis, 1943; served a residency at the Minneapolis General and the Fairview hospitals; died in the University Hospitals February 2, aged 26, of hypostatic bronchopneumonia.

Clark Edwards Sharp, Columbus, Ohio; Starling Medical College, Columbus, 1896; member of the Ohio State Medical Association; a captain in the medical corps of the U. S. Army, serving for a time at Base Hospital number 64, near Verdun, France; died April 2, aged 69, of coronary thrombosis.

George Henry Smith, East Orange, N. J.; Queen's University Faculty of Medicine, Kingston, Ont., Canada, 1912; member of the Medical Society of New Jersey; a captain in the medical corps of the Canadian Army during World War I and for ten years a major in the reserve; a member of the staffs of St. Michael's Hospital, Newark, St. Mary's Hospital and the Orange Memorial Hospital, Orange, where he died April 15, aged 60, of cerebral thrombosis and heart disease.

George Seeley Smith ✠ Shaker Heights, Ohio; Harvard Medical School, Boston, 1893; formerly associate professor of medicine at the Cleveland College of Physicians and Surgeons; served as examiner for a number of life insurance companies; died in the Charity Hospital, Cleveland, April 8, aged 77, of edema of the lungs, following an operation.

Harvey Smith, Spokane, Wash.; McGill University Faculty of Medicine, Montreal, Que., Canada, 1897; member of the Washington State Medical Association; on the staffs of the Sacred Heart Hospital and the Deaconess Hospital, where he died March 29, aged 70, of carcinoma.

Leonard Marshall Smith ✠ Oshkosh, Wis.; Northwestern University Medical School, Chicago, 1926; entered the Mayo Foundation, Rochester, Minn., as a fellow in surgery Oct. 1, 1926 and in October 1929 was appointed first assistant in surgery; served during World War I; fellow of the American College of Surgeons; on the staff of the Mercy Hospital; died April 13, aged 47.

William Sidney Smith ✠ Brooklyn; Columbia University College of Physicians and Surgeons, New York, 1905; specialist certified by the American Board of Obstetrics and Gynecology, Inc.; a captain in the medical corps of the U. S. Army during World War I; fellow of the American College of Surgeons; past president of the New York and Brooklyn Obstetrical societies; chief attending gynecologist and obstetrician, Brooklyn Hospital; died April 18, aged 61, of coronary disease.

Clinton J. Sprinkell, Russellville, Ill.; Hospital College of Medicine, Louisville, Ky., 1900; member of the Illinois State Medical Society; died April 21, aged 71, of heart disease and tabes dorsalis.

Oscar Wayne Sprouse, Sulphur, Okla.; Barnes Medical College, St. Louis, 1903; died February 24, aged 71.

Warren L. Stamper, Indianapolis; Kentucky School of Medicine, Louisville, 1892; also a dentist; died April 2, aged 73, of cerebral hemorrhage.

Chester Arthur Stebbins, Lexington, Ky.; Barnes Medical College, St. Louis, 1911; served in the medical corps of the U. S. Army during World War I; died April 10, aged 60, of asthma.

Carl Floyd Stevens, North Hollywood, Calif.; Medical College of Virginia, Richmond, 1940; member of the California Medical Association; died March 1, aged 50.

Sardine Graham Stone, Nanafalia, Ala.; Medical College of Alabama, Mobile, 1887; member of the Medical Association of the State of Alabama; died in Folly April 7, aged 77, of congestive heart failure, hypertension and arteriosclerosis.

Benson R. Sumner, Armada, Mich.; Detroit College of Medicine, 1902; a captain in the medical corps of the U. S. Army during World War I; for many years on the staff of the Providence Hospital, Detroit; died April 10, aged 72, of coronary occlusion and heart block.

Fred Traganza, Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1894; Baltimore Medical College, 1895; member of the Medical Society of the State of Pennsylvania; died March 24, aged 73.

George C. Trimble, East Point, Ga.; Atlanta Medical College, 1888; member of the Medical Association of Georgia; served as city physician and on the East Point Council; formerly in charge of the Georgia Baptist Orphanage; for many years local surgeon for the Central of Georgia Railway; died April 9, aged 80, of heart disease and diabetes mellitus.

Harmon Albert Vedder, New York; College of Physicians and Surgeons, New York, 1891; served during World War I; died in St. Luke's Hospital April 5, aged 76, of pulmonary edema.

Joseph Frederick Wood ✠ Portland, Ore.; University of Oregon Medical School, Portland, 1900; fellow of the American College of Surgeons; formerly secretary and member of the Board of Medical Examiners; died May 17, aged 67.

William Henry Lee Woodyard, Judsonia, Ark.; Memphis (Tenn.) Hospital Medical College, 1894; local surgeon for the Missouri Pacific Railroad; for many years president of the Farmers and Merchants Bank; died March 26, aged 78, of coronary occlusion.

Homer Woolery, Bloomington, Ind.; State College of Physicians and Surgeons, Indianapolis, 1907; member of the American Academy of Pediatrics; served during World War I; died in Hollywood, Fla., April 22, aged 71, probably of coronary thrombosis.

DIED WHILE IN MILITARY SERVICE

John Jacob Bortz, Allentown, Pa.; Temple University School of Medicine, Philadelphia, 1930; member of the Medical Society of the State of Pennsylvania; served as an examining physician at the Allentown Induction Center; a member of the staff of the Sacred Heart Hospital; commissioned a captain in the medical corps, Army of the United States, on Oct. 16, 1942; began extended active duty on Oct. 31, 1942; died in San Francisco May 21, aged 40.

Henry Thomas Davis Jr., Galveston, Texas; Howard University College of Medicine, Washington, D. C., 1937; formerly assistant in pathology at his alma mater; served an internship at the Freedmen's Hospital, Washington, D. C., and a residency at the Flint-Goodridge Hospital of Dillard University, New Orleans; a first lieutenant in the medical reserve corps of the U. S. Army; died in the Fitzsimons General Hospital, Denver, March 31, aged 32, of pulmonary tuberculosis.

Sidney Chase Graves ✠ Milton, Mass.; Harvard Medical School, Boston, 1929; fellow of the American College of Surgeons; specialist certified by the American Board of Obstetrics and Gynecology, Inc.; member of the New England Obstetrical and Gynecological Society and the Boston Obstetrical Society; formerly assistant in gynecology at his alma mater; served as assistant visiting surgeon to the Free Hospital for Women, Brookline; commissioned a lieutenant commander in the medical corps of the U. S. Naval Reserve, July 20, 1942; began extended active duty on Sept. 18, 1942 at the U. S. Naval Hospital in Chelsea; died in the Pacific area May 14, aged 42, from a knife wound of the neck.

Alexander Vayle Harrison, San Pedro, Calif.; University of Oklahoma School of Medicine, Oklahoma City, 1939; served an internship at the Los Angeles County Hospital, Los Angeles; commissioned a first lieutenant in the medical reserve corps of the U. S. Army on June 6, 1939; began extended active duty on Nov. 18, 1940; later promoted to captain; died in New Britain March 4, aged 29, of scrub typhus.

Jack Robert Hughes ✠ Captain, M. C., U. S. Army, San Francisco; Stanford University School of Medicine, San Francisco, 1941; commissioned a first lieutenant in the medical corps of the U. S. Army; began active duty on July 3, 1941; later promoted to captain; died in the Percy Jones General Hospital, Battle Creek, April 29, aged 30, of intestinal obstruction, adhesions due to gastric resection performed for peptic ulcer.

Edgar David Riley, Terrell, Texas; Baylor University College of Medicine, Dallas, 1937; member of the State Medical Association of Texas; served on the staff of the Alexander Hospital; commissioned a first lieutenant in the medical reserve corps of the U. S. Army on May 31, 1937; later promoted to captain; began extended active duty at Camp Barkeley, Jan. 22, 1941; served as chief surgeon in a field hospital in India for sixteen months; died in the Brooke General Hospital, Fort Sam Houston, February 17, aged 33, of brain tumor.

David Earl Vogan Jr., Mercer, Pa.; University of Pittsburgh School of Medicine, 1942; served an internship at the Presbyterian Hospital, Pittsburgh; commissioned a first lieutenant in the medical corps, Army of the United States, on June 1, 1942; began active duty on July 3, 1943; died in New Guinea April 29, aged 25, of acute hemorrhagic purpura.

Bureau of Investigation

TWO CALIFORNIA RHEUMATISM FRAUDS

One from San Francisco—"Unipathic" Nostrums

The "Unipathic Medicines," recommended chiefly for arthritis, were sold through the mails from San Francisco by the Maxwell Sales Company, whose manager was a J. W. Spiker. These promoters, on learning that the Post Office Department was investigating their scheme, wrote that department in June 1943 that they were discontinuing their business and offered to agree in writing to do so, apparently hoping to avoid the issuance of a fraud order, which would debar them from using the mails. The Department refused the offer and set a time for the hearing on the charge of using the mails to defraud. On the date set, a government chemist testified that his analysis of the seven Unipathic nostrums showed the following:

"℞ No. 1," labeled as a "diuretic alterative stomachic tonic"—a brownish red solution of alcohol (21 per cent), saw palmetto, stillingia root, black cohosh, poke root and sherry wine, but lacking the aconite declared on the label.

"℞ No. 2," labeled as a laxative—yellow-coated tablets containing belladonna, cascarin, aloin, podophyllin and ginger.

"℞ No. 3," labeled as a rubbing oil—about equal amounts of turpentine, kerosene and paraffin oil, with wintergreen odor.

Unipathic Tablets, ℞ A, B, C and D, averaged 99.5 per cent of milk sugar, traces of starch and infinitesimal amounts, if any, of the various drugs of the homeopathic type, too numerous to detail here, that were claimed on the label.

Another government witness, an authority on homeopathic medicine, testified, among other things, that the two general types of arthritis, specific and nonspecific, would not respond to the treatment in question, since the proper therapy must be based on the individual patient and his need, and hence no single type of treatment would suffice in all cases. The Post Office Department accordingly issued a fraud order on Oct. 5, 1943 against the Maxwell Sales Company, J. W. Spiker, Manager, and their officers and agents.

On Oct. 9, 1935 a jury in a California district federal court found Joseph W. Spiker, Frank W. Kimball and the Melatol Laboratories of Oakland, Calif., guilty of violating the National Food and Drugs Act, and a total fine of $1,200 and costs was imposed. The case involved the shipping in interstate commerce of a consignment of "Melatol," the package and enclosed circular of which falsely and fraudulently represented the nostrum (which was nothing but crude oil) as a remedy for diabetes, stomach ulcer, Bright's disease and some other disorders. In October 1936 the California authorities reported that J. W. Spiker once had done business under the name "National Diabetic Clinic" but was then (1936) associated with a San Francisco outfit variously called the Mellow Tablet Company, the San Francisco Mel-O-Tab and the Mel-O-Tab Laboratories, putting out "Mel-O-Tabs" for stomach ulcer and "Naz-ol for Catarrh, Sinus, Asthma and Hay Fever."

And from Los Angeles—"A B C" Nostrums

Los Angeles, the happy hunting ground for many types of quackery in medicine, religion and politics, was the home of a concern operating under the names "American Mutual Health Association" and "ABC Preparations Company," with one R. P. Probasco designated as general manager. Through the mails they sold what they called "A B C Preparations" which, when taken singly or together, according to directions, in conjunction with "diet charts" and "instruction sheets," were represented to "go to the root of" and permanently "eradicate" and "cure" all forms of rheumatism, sciatica and arthritis; this, regardless of the supposed hopelessness of the case or the fact that the customer had previously tried "everything" without benefit. Further, these products were represented to overcome high blood pressure and kidney, bladder and prostate disorders.

And what were these "cures," promoted by extravagant claims and glowing testimonials? At the hearing of the case, held on July 26, 1943, a chemist of the Food and Drug Administration testified for the government that "Preparation A" was chiefly water, with less than 1 per cent each of hydrochloric and nitric acids; that "B" contained 36 per cent of alcohol and small amounts of Jamaica dogwood and cimicifuga, and that "C," in powder form, was a mixture of phenolphthalein, senna, sulfur and cream of tartar.

Another government witness, a physician who has had experience in the treatment of arthritis and allied conditions and of the other diseases and symptoms described in the "A B C" advertising, testified as to causes and manifestations of arthritis, as well as other painful chronic diseases which are sometimes confused with it. He showed that different cases of arthritis may present varying degrees of inflammation, swelling, deformity and pain, according to the age, weight and other conditions of the patient, and also are influenced by weather and climatic conditions, as well as the complications of accompanying diseases. In many cases, he testified, the symptoms of arthritis may disappear entirely with the medication or change of diet, whereas in others they may become worse, regardless of treatment. Certainly, he said, there is no one treatment suitable for all of the many forms and conditions of this disorder, and the proper therapy must be based on the causative condition. Some cases require exercises, others rest, some a reducing diet and others a strengthening diet, whereas some call for surgery. He showed that there are no known drugs which will repair the damage done by arthritis to the bones and cartilage of the joints. The witness also discussed the other claims for the preparations, and the presumable actions of the latter as based on their respective compositions, and revealed the worthlessness of the formulas for the conditions in question. The respondents neither put in an appearance nor sent their attorney to represent them at the hearing. The Post Office Department found that the business was a scheme for obtaining money through the mails by means of false and fraudulent pretenses, representations and promises, in violation of the laws of the United States, and on Nov. 24, 1943 a fraud order was issued, debarring from the mails the American Mutual Health Association, ABC Preparations Company, R. P. Probasco, and their officers and agents.

STIPULATIONS

Agreements Between Federal Trade Commission and Promoters of Various Products

Following are abstracts of stipulations in which promoters of "patent medicines," medical devices and cosmetics have agreed, following action by the Federal Trade Commission, to discontinue certain misrepresentations in their advertising. These stipulations differ from the "Cease and Desist Orders" of the Commission in that such orders definitely direct the discontinuance of misrepresentations. The abstracts that follow are presented primarily to illustrate the effects of the provisions of the Wheeler-Lea Amendment to the Federal Trade Commission Act on the promotion of such products:

"Formula Book" and "Brains Boiled Down."—These were titles of publications issued by Ernest L. Fantus, trading as Elfco Service, Chicago, and contained formulas for various disorders. In May 1943 Fantus stipulated with the Federal Trade Commission that he would cease representing that products compounded in accordance with his formulas designated "Eczema Remedy," "Croup & Pneumonia Salve—Vapor Jelly for Inhaling," "Skin Lotion for Pimples, Blackheads, Etc." and "To Prevent Hair Falling Out" are effective treatments for the conditions indicated in those names. Previously Fantus had issued a booklet entitled "Scherl's System of Beauty Culture," which also contained formulas, and on Nov. 24, 1938, he stipulated with the Federal Trade Commission that he would cease representing that products compounded from these recipes would insure perfect skin, cure dandruff, promote hair growth, remove superfluous hair and freckles, keep arms white as snow and make hands soft and velvety.

Modern Eyes Mascara.—That this is the fastest selling brand of mascara and, when applied with the spiral brush which accompanies it, will coat all sides of the eyelashes rather than the under side only, were misrepresentations which Modern Cosmetics, Inc., of Chicago agreed to discontinue in its advertising in a stipulation that it entered into with the Federal Trade Commssion in May 1943.

Vitamin-Quota.—This is put out by the Associated Laboratories, Inc., Long Island City, N. Y. In May 1943 this concern stipulated with the Federal Trade Commission to discontinue advertising misrepresentations that it is impossible or extremely difficult to obtain adequate intake of vitamins from ordinary foods; that conditions such as vague aches and pains, fatigue, lack of resistance to colds, nervousness, poor appetite poor digestion, or lack of energy are necessarily symptomatic of vitamin deficiencies, and that the ingestion of Vitamin-Quota capsules will relieve, remedy or correct such conditions or result in a superior state of health.

Correspondence

FAILURE OF THE SWEAT MECHANISM IN THE DESERT

To the Editor:—It was with interest that we read Captains Wolkin, Goodman and Kelley's article "Failure of the Sweat Mechanism in the Desert: Thermogenic Anhydrosis" (THE JOURNAL, February 19, p. 478). The reason for our interest is that we have observed 2 patients who presented the same syndrome. These men, however, were not subjected to the hot dry climate of the desert but to the hot highly humid climate of the South Pacific.

The first patient who came to our attention was a cook who had been in the tropics about seven months, where the temperature is high and the humidity is constantly near the saturation point. In addition to being exposed to this extreme heat, he carried out his duties as a cook. He was in good health and sweated in a normal fashion for the first six months. Then he noticed that in a short time he stopped sweating from the neck down and developed a dry scaliness of the skin. Associated with this was generalized weakness. Examination at this time showed a striking distribution of sweating. The day of examination was extremely hot, so that all of the examiners and the people in the dispensary were sweating profusely. This man was sweating in the same manner only about the head and neck. At the base of the neck the sweating stopped abruptly. The rest of the body was dry. Examination of the axillas and inner aspects of the groins showed the skin likewise perfectly dry. The skin presented a nondescript, dry, scaling, slightly erythematous eruption. There was no evidence of ichthyosis. He appeared weak and pale. Physical examination otherwise revealed nothing of importance. He was sent to a hospital in a cooler climate. On examination there nothing unusual was found. After two weeks of rest he began to sweat normally.

The second patient also was in the same type of climate; namely, hot and highly humid. He had no particular difficulties for the first four months; then he began to notice weakness while working and the appearance of a dry, scaly eruption and soon after this the failure to sweat. Because of the weakness that he developed on the slightest exertion he also was sent to a hospital in a cooler climate. Examination there showed nothing unusual except the anhydrosis. After three weeks of rest he was sweating normally and felt much stronger.

These 2 cases follow closely those described by the authors, with spectacular sweating of the face and neck, which stops abruptly, the rest of the body remaining dry. The eruption over the body is very similar to the stationary "goose flesh" that they describe: in other words, a dry papulofollicular, nonerythematous eruption. We were unfortunately unable to study their cases further. We feel that the authors have described a unique form of anhydrosis and that our patients also fall into this group.

The one difference between their patients and ours is that of climate. Their patients were subjected to extreme desert heat with low humidity, and ours to tropical heat with high humidity. It would seem, therefore, that only the high temperature plus some unexplained failure of the sweat mechanism are the principal factors in bringing out this syndrome.

Undoubtedly, with more troops being subjected to high temperatures over long periods of time, more of these cases will be seen. The only apparent treatment is removal to a cooler climate.

Further investigation as to the cause of this form of anhydrosis should be carried out.

FREDERICK G. NOVY JR.,
Lieutenant Commander, MC-V(S), U.S.N.R.
JOSEPH H. RAMSEY,
Lieutenant, MC-V(G), U.S.N.R.

SUGAR A "DILUTING" AGENT

To the Editor:—The Council on Foods and Nutrition (THE JOURNAL, Nov. 7, 1942, p. 763) gave as its view that "the consumption of sugar and of other relatively pure carbohydrates has become so great during recent years that it presents a serious obstacle to the improved nutrition of the general public." It was emphasized that refined sugar is a food deprived of vitamins and minerals; however, "if sugar could be always used only as a means of making highly nutritrious foods like milk or whey more appetizing, much less odium would attach to it than does. . . . But even here one is essentially 'diluting with calories' the food which is sweetened."

The Council thus presents the concept of sugar "diluting with calories" the foods of our dietary. It seems we should study the full meaning of this concept, what it implies and note some of the biochemical events it involves as they appear to be related to our national health and war effort.

From the Council report it is made clear that when sugar is "diluting with calories" it is displacing nutritionally superior foods from the dietary, while at the same time it is increasing the requirements of nutrients in the foods displaced. Vitamins B_1, riboflavin and niacin are necessary for the oxidation of dextrose. Sugar does not supply these vitamins, yet it increases their requirements. When "diluting with calories" sugar is thus using vitamins from other foods or from the reserves of body tissues. Wilder (Handbook of Nutrition, THE JOURNAL, Oct. 17, 1942, p. 531) expressed the idea in these words: "Sugar is not among the recommended foods. Its recent rationing will not provoke a hardship, for sugar supplies nothing in nutrition but calories, and the vitamins provided by other foods are sapped by sugar to liberate these calories."

Cowgill (THE JOURNAL, Dec. 9, 1939, p. 2151) pointed out that there is an increased requirement of other food essentials like calcium, phosphorus and iron with an increase of calories. We may say, then, that sugar "diluting with calories" decreases the vitamin (or other nutrient)/calory ratio and increases the difficulty of obtaining a diet nutritionally adequate to meet the daily allowances recommended by the Food and Nutrition Board of the National Research Council (THE JOURNAL, June 7, 1941, p. 2601).

Little concern would be felt for the role of sugar as a "diluent" of foods and nutrients and a "sapper" of stored vitamins if only about 1 ounce (120 calories) per person daily were consumed, as was the case a hundred years ago. However, according to Gubin (*Hygeia*, January 1944, p. 15), the monthly per capita civilian consumption of sugar as food for 1935-1939 averaged 8 pounds (or 483 calories per person daily); for 1942 it was 7½ pounds (452 calories daily); for 1944 it is estimated to average 6½ pounds (or about 400 calories per person daily).

Four hundred calories of sugar consumed by a person on a diet of 2,000 calories represents a "dilution" with calories of 20 per cent. The diets of many people contain less than 1,800 calories per day: as, for example, 8.8 per cent of the aircraft workers in southern California (Wiehl, Dorothy G.: *Milbank Memorial Fund Quart.* **20,** October 1942). Even on a 4,000 calory diet the 400 calories of sugar dilutes the nutrients 10 per cent. Probably if the 400 calories of sugar were supplied by superior foods, all the nutrients would be more "concentrated" in the diet by 10 or 20 per cent, depending on whether the diet contained 4,000 or 2,000 calories.

It may sound superficial to say that "diluting" our foods with this great consumption of sugar is "diluting" the physical strength, national unity and war effort of our country, yet the Council on Foods and Nutrition of the American Medical Association (THE JOURNAL, Nov. 7, 1942), the Committee on Nutrition in Industry of the National Research Council (Reprint and Circular Series No. 110, April 1942) and members participating in the Symposium on Nutrition in Industry at the Annual Congress on Industrial Health (e. g. see discussions of

Wilder and of Pett, THE JOURNAL, March 13, 1943, pp. 869-871) have already expressed concern over the consumption of sweetened carbonated beverages and candy by workers in industrial plants.

It seems to me that more publicity should be given to this concept of sugar as a "diluting" agent; and more research is needed to find out the extent of harm our present consumption of sugar is causing.

Our patients and the general public must be made to realize that, while sugar supplies energy, it also "dilutes," weakens with calories, and that other carbohydrates and all proteins and fats are sources of energy.

RAY M. MOOSE, M.D., San Bernardino, Calif.

DIAGNOSIS OF EARLY SYPHILIS

To the Editor:—Clinical teaching has always stressed the fact that a painless sclerotic solitary ulcer or "hard chancre" is the typical primary lesion of syphilis. While it is true that all textbooks and teachers allow for some variation in the clinical appearance of the initial local sore, my personal observation is that its characteristics, somewhat like those of later syphilitic manifestations, are more protean than is generally considered by our profession.

In several years of both military and private practice I have had occasion to see relatively few cases of early syphilis. But of 11 cases that my associates and I were able to confirm positively by dark field examinations only 3 presented the classic type of primary lesion. The 8 others resembled ordinary chancroidal or balanitic ulcerations; they were not indurated, often were multiple and sometimes were painful. The most recent case in my personal experience was almost, and perhaps hardly inexcusably, overlooked as syphilitic, for the patient presented the typical picture of an ordinary nonspecific balanoposthitis complicating a phimosis with several tender ulcerated areas on the preputial mucosa and, furthermore, he maintained that he had had the same condition several times in the past. Only the history of recent exposure prompted me to have a dark field examination made, and it was quite a surprise to receive a laboratory report that the smear was found teeming with Treponema pallidum.

This naturally brings to mind the important question How many of the latent or advanced cases of syphilis we find were not detected in their early, more easily treated, stage simply because the primary lesion was so atypical or minor as not even to suggest the ruling out of syphilis to the examiner? If the threat of syphilis to mankind is to be further reduced, not only must a high "index of suspicion" be maintained on the part of the individual practicing physician but an abrupt *volte face* is in order on the part of our clinical teachers to emphasize duly the varied appearance of initial syphilitic lesions. Only thus can the practitioners of medicine be influenced to subject each and every clinical case presenting a genital ulcer of any description to the trustworthy oracle of the dark field laboratory examination.

JEROME M. SPATZ, Captain, M. C., A. U. S.

JONATHAN FOLTZ, M.D., SURGEON GENERAL OF THE NAVY

To the Editor:—On page 278 of the May 27 issue of THE JOURNAL there is an editorial comment on the recent celebration of the Lancaster city and county medical societies. It speaks of Dr. Jonathan M. Foltz as being Surgeon General under President Grant. Dr. Foltz was Surgeon General of the U. S. Navy, and I am sure there was a Surgeon General of the U. S. Army at the same time, so that this branch of the service should have been designated. I happened to notice this because in writing up my grandfather's diary I used a biography of Dr. Foltz, who during the Civil War was ship surgeon on Farragut's flag ship while my grandfather was paymaster on one of the other vessels in the same fleet.

STANLEY B. WELD, M.D., Hartford, Conn.
Managing Editor, *Connecticut State Medical Journal.*

BILATERAL OOPHORECTOMY WITH RADICAL OPERATION FOR CANCER OF THE BREAST

To the Editor:—Your editorial on "Bilateral Oophorectomy with Radical Operation for Cancer of the Breast" in the May 20 issue, was interesting.

Oophorectomy may favorably influence the control of mammary cancer, but such a blunt statement is not desirable at present without an adequate number of cases with sufficient length of follow-up, as it may lead to premature conclusions. Can one judge on the observation of 1 case of mucoid cancer in a series of 25 cases out of which only 2 had a five year follow-up period?

In an earlier article on "Mammary Cancer of Youth" (*Surg., Gynec. & Obst.* **77**:55 [July] 1943) 73 cases of breast cancer under the age of 30 years were reviewed. The records of these patients were collected from six leading hospitals of New York and Boston, with follow-up periods over five and ten years. From this study it was learned that the previously held belief that the prognosis for women with breast cancer under 30 years of age is fatal is untenable. Results in such younger groups could be favorably compared to the general series (Eggers, Carl; de Cholnoky, Tibor, and Jessup, D. S. D.: *Ann. Surg.* **113**:321 [March] 1941).

The five year survival was found to be 40.8 per cent and the ten year arrest 37 per cent in all cases in which operation was performed. Included in this series is a patient 23 years of age with bilateral breast cancer. She gave birth to a child five years after the first radical operation and a year after that had a radical operation for cancer of the other breast. This patient is well twelve years after the original operation.

In patients with small tumors less than 2 centimeters in diameter lymph node involvement was rarely found. Among these patients 10 out of 11 survived the five year period, although no oophorectomy or x-ray castration was performed.

Early diagnosis, therefore, is imperative when dealing with small solid tumors. Often this can be made only by a frozen section. In such cases oophorectomy may be omitted, even if further observations on a larger series with a longer follow-up period should indicate its beneficial influence.

Endocrine influence on tumor formations is a possibility, and it was also mentioned in one of our articles (*Arch. Surg.* **38**:79 [Jan.] 1939). It is not exactly known as yet whether the elimination of ovarian function alone could reduce carcinogenesis or promote cancerous growth. At present it may be hasty to advocate oophorectomy in all cases of early breast cancer in the premenopausal stage. Clinical evidence with few recurrences points to satisfactory results following a carefully performed radical operation, after which no "small amount" of cancer cells should remain which could be stimulated by estrogenic substances. Additional mutilating operations therefore ought to be limited to more advanced cases with metastasis or recurrent lesions until further well controlled investigations confirm the beneficial effect of bilateral oophorectomy in breast cancer.

Finally I would like to point out the statement in the editorial that "mucoid cancer . . . probably arises from the stroma. . . ." This is obviously a mistake.

TIBOR DE CHOLNOKY, M.D., New York.

Council on Medical Education and Hospitals

GRADUATE CONTINUATION COURSES FOR PRACTICING PHYSICIANS

In accordance with the plan of the Council on Medical Education and Hospitals, advance information concerning graduate continuation courses for practicing physicians available in various centers is published semiannually. The following list consists of courses beginning during the period June 30 through Dec. 31, 1944. It is hoped that this material will be useful to physicians seeking opportunities for postgraduate work. Physicians called on to assume new responsibilities because of the war and physicians who are returning to practice may find here listed courses which will be of help to them. Since many of the classes are necessarily limited, those who contemplate enrolling in any of these courses are urged to communicate as early as possible with the proper executive officer.

Institutions offering continuation courses are invited to announce such courses in these semiannual lists compiled by the Council on Medical Education and Hospitals.

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Graduate Continuation Courses for Practicing Physicians—June 30, 1944–Dec. 31, 1944

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
ALLERGY			
(See Also Dermatology and Syphilology)			
Harvard Medical School Courses for Graduates, 25 Shattuck Street, Boston 15, Massachusetts At: Massachusetts General Hospital	Clinical Allergy [2]	July 10 thr. 21, 1944, 2 weeks	$50
Tufts Medical School Postgraduate Division, 30 Bennett Street, Boston 11, Massachusetts	Allergy	Oct. 16 thr. 20, 1944, 5 days	25
Long Island College of Medicine, Medical Society of County of Kings and Academy of Medicine, Brooklyn At: Kings County Hospital, 451 Clarkson, Brooklyn, New York	Allergy	Oct. 13, 1944 for eight Fridays	10
American College of Physicians, 4200 Pine Street, Philadelphia 4, Pennsylvania. At: Roosevelt Hospital, New York, New York	Allergy	Oct. 16 thr. 21, 1944, 1 week	Members 20 Nonmembers 40 [3]
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Allergy	Nov. 27 thr. Dec. 15, 1944, 3 weeks full time	200
Columbia University. At Mt. Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Allergy in Children	Oct. 6 thr. Nov. 24, 1944, 7 weeks	25
	Allergy	Oct. 2 thr. Nov. 24, 1944, 8 weeks	60
ANATOMY			
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Dissection of Head and Neck [1]	Arranged. Part time	per hour 10
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York	Applied Anatomy of Urogenital System	Arranged. 160 hours	295
	Applied Anatomy of Head and Neck	Arranged. 80 hours	275
	Applied Anatomy of Thorax including Axilla and Pectoral Region	Arranged. 100 hours	275
	Applied Anatomy of Abdomen including Pelvis and Perineum	Arranged. Either sex 160 hrs. Both sexes 200 hrs.	300 500
	Applied Anatomy of Upper Extremities including Shoulder Girdle, Axillae—Surgical	Arranged. 60 hours	115
	Applied Anatomy of Lower Extremities—Surgical	Arranged. 60 hours	115
	Applied Anatomy of Pelvis and Abdomen	Arranged. 160 hours	300
	Applied Anatomy of Orthopedics	Arranged. 100 hours	275
	Applied Anatomy of Ear, Nose and Throat	Arranged. 80 hours	275
	Applied Anatomy of Respiratory Spinal Region and Local Anesthesia	Arranged. 100 hours	275
University of Pennsylvania Graduate School of Medicine At: University of Pennsylvania Anatomical Laboratory, Philadelphia, Pennsylvania	Rhinolaryngologic (Cadaver) Operations	Arranged. 10 days, 20 hours	150
ANESTHESIOLOGY			
(See Also Anatomy and Obstetrics and Gynecology)			
Department of Anesthesiology, University of Georgia School of Medicine. At: University Hospital, Augusta, Georgia	Regional Anesthesia	Arranged. 2 weeks	150
	General Anesthesia (Inhalation and Intravenous)	Arranged. 2 weeks	150
Harvard Medical School Courses for Graduates, 25 Shattuck Street, Boston 15, Massachusetts. At: Boston City Hospital, Harvard Teaching Service and Faulkner Hospital, Boston	Clinical Anesthesia	Given monthly. Arranged	30
Tufts Medical School Postgraduate Division, 30 Bennett Street, Boston 11, Massachusetts	Anesthesiology	Dec. 4 thr. 7, 1944, 4 days	25
University of Minnesota. At: University of Minnesota Center for Continuation Study, Minneapolis 14, Minnesota	Anesthesia	Announced. 3, 6 or 12 days	15, 25, 50

References will be found on p. 747.

Graduate Continuation Courses for Practicing Physicians—June 30, 1944–Dec. 31, 1944—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
Long Island College of Medicine, Medical Society of County of Kings and Academy of Medicine, Brooklyn At: Kings County Hospital, 451 Clarkson, Brooklyn	Regional Anesthesia	Oct. 18, 1944 for 22 sessions, 3 sessions weekly	$100
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Anesthesia [1]	Sept. to Dec. 1944, 2 weeks full time	100
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Regional, Spinal, etc. Anesthesia	First of any months, 3 months full time	300 [3, 4]
	Regional Anesthesia [1]	Arranged. 12 sessions	75 [3, 4]
ARTHRITIS			
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Arthritis and Allied Rheumatic Disorders	Oct. 16 thr. 20, 1944, 5 days full time	45
University of Pennsylvania Graduate School of Medicine At: Abington Memorial Hospital, Abington, Pennsylvania	Etiology, Pathology, Physiological Deviations and Treatment of Arthritis	Oct. thr. Dec. 1944, Thursday mornings	25
CARDIOVASCULAR DISEASES **(See also Diabetes and Electrocardiography)**			
California Heart Association, 45 2d Street, San Francisco 5, California. At: Los Angeles County General Hospital and County Medical Building, Los Angeles, California	Cardiology and Related Fields	Mid-November 1944, 2 days	10-15
American College of Physicians, 4200 Pine Stree, Philadelphia 4, Pennsylvania. At: Massachusetts General Hospital, Boston	Cardiology	Oct. 2 thr. 7, 1944, 1 week	Members 20 Nonmembers 40 [3]
Harvard Medical School Courses for Graduates, 25 Shattuck Street, Boston 15, Massachusetts At: Beth Israel Hospital, Boston, Massachusetts	Cardiology	Nov. 1 thr. 30, 1944, 1 month, daily	150
At: Peter Bent Brigham Hospital, Boston, Massachusetts	Modern Diagnosis and Treatment of Heart Disease	July 3 thr. 29, 1944, 4 weeks, daily	150
Tufts Medical School Postgraduate Division, 30 Bennett Street, Boston 11, Massachusetts	Cardiology	Nov. 13 thr. 17, 1944, 5 days	25
Long Island College of Medicine, Medical Society of County of Kings and Academy of Medicine, Brooklyn At: Israel Zion Hospital, 4802 10th Avenue, Brooklyn, New York	Clinical Cardiology	Oct. 17, 1944, for 4 Tuesdays	10
At: Jewish Hospital, 555 Prospect Street, Brooklyn, New York	Hypertension and Nephritis	Oct. 18, 1944, for 8 Wednesdays	10
	Diseases of Peripheral Blood Vessels	Oct. 18, 1944, for 7 Wednesdays	10
At: Kings County Hospital, 451 Clarkson, Brooklyn, New York	Heart Disease in Childhood	October (arranged). 10 sessions	10
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Peripheral Vascular Diseases	Oct. 23 thr. 27, 1944, 5 days full time	45
	Cardiology	Oct. 30 thr. Nov. 3, 1944, 5 days full time	45
Columbia University. At Mt. Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Kidneys; Arteries	Nov. 9, 1944 thr. Jan. 4, 1945, 8 weeks	15
	Peripheral Vascular Diseases	Oct. 3, 1944 thr. Jan. 9, 1945, 15 weeks	35
	Supplementary Course in Cardiovascular Diseases	Oct. 11, 1944 thr. Mar. 21, 1945, 24 weeks	75
	Advanced Fluoroscopy of Heart and Great Vessels	Oct. 6 thr. Dec. 22, 1944, 12 weeks	30
	Bedside Clinics in Heart Disease	Oct. 2 thr. Nov. 20, 1944, 8 weeks	25
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York	Cardiology	Arranged. 30 hours	100
Woman's Medical College of Pennsylvania, Philadelphia 29, Pennsylvania	Clinical Cardiology	Arranged. 2 weeks	100
John Sealy Hospital Outpatient Auditorium, University of Texas Medical Branch, Galveston, Texas	Cardiology Clinic	Announced. 2 days	None
CHEST DISEASES			
Columbia-Presbyterian Medical Center, 630 West 168th Street, New York, New York	Physiologically Directed Therapy in Asthma, Pulmonary Emphysema and Chronic Pulmonary Tuberculosis	Oct. 23 thr. Nov. 4, 1944, 2 weeks, 3 days per week	50
Columbia University. At Mt. Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Diseases of the Chest (advanced)	Oct. 5, 1944 thr. Jan. 19, 1945	50
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York	Clinical Pulmonary Diseases	Arranged. 1 month	100
Edward L. Trudeau Foundation and Columbia University At: Saranac Lake, New York and 2 week optional course at Bellevue Hospital, New York, New York	Trudeau School of Tuberculosis [1]	Sept. 11, 1944, 4 weeks (plus 2 wk. optional course following at Bellevue Hosp, N. Y. C. beginning Oct. 9, 1944)	100 [5]
DERMATOLOGY AND SYPHILOLOGY **(See Also Venereal Disease and Physical Therapy)**			
University of Minnesota. At: University of Minnesota Center for Continuation Study, Minneapolis 14, Minnesota	Dermatology	Announced. 3, 6 or 12 days	15, 25, 50
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Clinical Dermatology and Syphilology	Arranged, part time. 6 weeks	50
		3 months	85
	Practical Instruction in Diagnosis and Management of Syphilis	Arranged, part time. 6 weeks	50
		3 months	85
	Diagnosis and Treatment of Syphilis	Arranged, part time. 6 weeks	30
		3 months	50
	Practical Instruction in Dermatological Allergy and Immunology	Arranged, part time. 6 weeks	50
		3 months	85
	X-Ray Treatment of Ringworm of the Scalp [1]	Oct. 2 thr. Dec. 29, 1944, 13 weeks, part time	100
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Dermatology and Syphilology	First of any month, 3 months, part time	75 [3]
	Dermatology and Syphilology	First of any month, 6 weeks, part time	50 [3]
DIABETES			
Harvard Medical School Courses for Graduates, 25 Shattuck Street, Boston 15, Massachusetts At: New England Deaconess Hospital	Diabetes	Continuously. Arranged	None
Long Island College of Medicine, Medical Society of County of Kings and Academy of Medicine, Brooklyn At: Jewish Hospital, 555 Prospect Place, Brooklyn, New York	Diabetes	Oct. 17, 1944, for eight Tuesdays	10
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Diabetes Mellitus, Nephritis and Hypertension	Dec. 11 thr. 15, 1944, 5 days, full time	45
University of Pennsylvania Graduate School of Medicine At: Philadelphia Hospital, Philadelphia, Pennsylvania	Diabetes Mellitus	Arranged. 2 to 4 weeks, 75 hours	150

References will be found on p. 747.

Graduate Continuation Courses for Practicing Physicians—June 30, 1944–Dec. 31, 1944—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
ELECTROCARDIOGRAPHY			
Michael Reese Hospital, 29th St. and Ellis Ave., Chicago 16, Illinois	Electrocardiography	Aug. 21 to Sept. 2, 1944, full time	$110
Tufts Medical School Postgraduate Division, 30 Bennett Street, Boston 11, Massachusetts	Electrocardiography	Sept. 25 thr. 29, 1944, 5 days	25
Columbia University. At: Montefiore Hospital, East Gun Hill Road, Bronx, New York	Elementary Electrocardiography	Oct. 5 thr. Dec. 28, 1944, 3 months, once a week	35
Long Island College of Medicine, Medical Society of County of Kings and Academy of Medicine, Brooklyn At: Jewish Hospital, 555 Prospect Street, Brooklyn, New York	Electrocardiography	Oct. 9, 1944, twice weekly for 4 weeks	10
	Electrocardiography and Clinical Cardiography	Oct. 17, 1944, three times weekly for 5 weeks	20
University of Michigan Medical School, Ann Arbor, Michigan At: University of Michigan Hospital	Electrocardiographic Diagnosis [20]	Nov. 6 thr. 11, 1944, 6 days	50
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Electrocardiography	Dec. 4 thr. 8, 1944, 5 days, full time	50
Columbia University. At Mt. Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Advanced Electrocardiography	Oct. 6 thr. Dec. 22, 1944, 12 weeks	30
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York	Electrocardiography	Arranged. 15 hours	100
University of Pennsylvania Graduate School of Medicine At: Philadelphia Hospital, Philadelphia, Pennsylvania	Electrocardiology and Cardiac Roentgenology [1]	Arranged. 5 days, 30 hours	60
ELECTROENCEPHALOGRAPHY			
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Clinical Electroencephalography [1]	Dec. 4 thr. 9, 1944, 6 days, full time	60
	Clinical Electroencephalography	Oct. 24 thr. Nov. 21, 1944, 4 weeks, part time	50
Columbia University. At Mt. Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Clinical Electroencephalography	Oct. 2, 1944, 30 hours	45
University of Pennsylvania Graduate School of Medicine At: Graduate Hospital and Pennsylvania Institute, Philadelphia, Pennsylvania	Electroencephalography	Arranged. 6 Thursdays, 36 hours	150
ENDOCRINOLOGY **(See Also Obstetrics and Gynecology**			
Tufts Medical School Postgraduate Division, 30 Bennett Street, Boston 11, Massachusetts	Endocrinology	Nov. 6 thr. 10, 1944, 5 days	25
Long Island College of Medicine, Medical Society of County of Kings and Academy of Medicine, Brooklyn At: Jewish Hospital, 555 Prospect Street, Brooklyn, New York	Female Sex Endocrinology	Arranged. Oct. 1944, 10 sessions	15
At: Long Island College Hospital, 340 Henry Street, Brooklyn	Endocrine Diseases and Disorders in Children and Adolescents	Oct. 16, 1944, Mondays for 8 weeks	10
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York	Endocrinology	Arranged. 30 hours	100
ENDOSCOPY **(See Also Urology)**			
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Cystoscopy and Endoscopy	Oct. 2 thr. Dec. 23, 1944, 12 weeks, part time	75
Columbia University At: New York Eye and Ear Infirmary, 218 2d Avenue, New York 3, New York	Bronchoscopy (work on animals)[1]	Arranged. 2 weeks intensive, or twice weekly for 6 weeks	250
At: Mt. Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Gastroscopy	Oct. 2 thr. 13, 1944, 2 weeks	30
At: Columbia-Presbyterian Medical Center, New York 32, New York	Bronchoscopy [1]	Arranged. Oct. thr. Dec. 1944, 3 weeks	250
	Gastroscopy [1]	Arranged. Oct. thr. Dec. 1944, 2 months, 3 times weekly	200
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York	Gastroscopy	Arranged. 30 hours	100
University of Pennsylvania Graduate School of Medicine At: University of Pennsylvania Surgical and Anatomical Laboratories, Graduate, University, Philadelphia and Mt. Sinai Hospitals, Philadelphia, Pennsylvania	Bronchoesophagology, Gastroscopy and Laryngeal Surgery	Arranged. 2 weeks, 85 hours	250
At: Graduate Hospital, 19th and Lombard Streets, Philadelphia and Presbyterian Hospital, 51 North 39th, Philadelphia	Cystoscopy, Chromo-Ureteroscopy and Pyelography	Arranged. 6 weeks, 36 hours	300
FRACTURES			
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York	Fractures and Allied Trauma	Arranged. 40 hours	150
GASTROENTEROLOGY **(See Also Endoscopy)**			
Kansas Medical Society, 112 West 6th Street, Topeka, Kansas At: 5-7 areas throughout Kansas	Gastroanology [6]	Oct. 1944, 1½ days	5
Harvard Medical School Courses for Graduates, 25 Shattuck Street, Boston 15, Massachusetts At: Peter Bent Brigham Hospital, Boston	Principles and Practice of Gastroenterology	July 1944, 1 month	100
Long Island College of Medicine, Medical Society of County of Kings and Academy of Medicine, Brooklyn At: Beth El Hospital, Rockaway Park and Avenue A, Brooklyn	Gastroenterology	Nov. 2, 1944, 7 Thursdays	10
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Gastroenterology	Oct. 2 thr. 6, 1944, 5 days, full time	45
Columbia University. At Mt. Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Gastrointestinal Disorders	Oct. 2 thr. Nov. 24, 1944, 8 weeks	75
	Physiology of Gastrointestinal Tract	Oct. 3 thr. Dec. 12, 1944, 10 weeks	30
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York	Peritoneoscopy	Arranged. 30 hours	75
	Gastroenterology	Arranged. 1 month	100
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Gastroenterology	Oct. 1, 1944, 6 weeks, part time	50 [3]
University of Pennsylvania Graduate School of Medicine At: Graduate Hospital, 19th and Lombard, Philadelphia	Clinical Gastroenterology [1]	Arranged. 16 weeks, 500 hours	400
HEMATOLOGY **(See Also Medicine, General)**			
Tufts Medical School Postgraduate Division, 30 Bennett Street, Boston 11, Massachusetts	Hematology C	July 3 thr. 15, 1944, 2 weeks	75
	Hematology A	Nov. 13 thr. 17, 1944, 5 days	25
Columbia University. At Mt. Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Clinical Hematology (Elementary)	Oct. 2 thr. Nov. 23, 1944, 8 weeks	50
Long Island College of Medicine, Medical Society of County of Kings and Academy of Medicine, Brooklyn At: Jewish Hospital, 555 Prospect Place, Brooklyn	Clinical Hematology	Oct. 12, 1944, 8 Thursdays	20

Late courses will be found on p. 747.

Graduate Continuation Courses for Practicing Physicians—June 30, 1944–Dec. 31, 1944—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
INDUSTRIAL MEDICINE			
University of Michigan School of Public Health, Ann Arbor, Michigan	Industrial Health	Announced. 3 days to 2 weeks	..
	Rehabilitation and Replacement of Industrial Personnel	Announced. 3 days	..
Columbia University, New York Postgraduate Medical School, 308 East 20th Street, New York 3, New York	Industrial Medicine	Nov. 13 thr. 17, 1944, 5 days, full time	$45
Columbia University. At: DeLamar Institute of Public Health, 600 West 168th Street, New York 32, New York	Industrial Hygiene	Nov. 13, 1944 thr. Jan. 19, 1945, 3 afternoons per week	40
LEGAL MEDICINE			
Harvard Medical School Courses for Graduates, 25 Shattuck Street, Boston 15, Massachusetts At: Harvard Medical School	Seminar in Legal Medicine [2]	Oct. 2 thr. 7, 1944, 6 days	25
MEDICINE, GENERAL			
Connecticut State Medical Society, 258 Church Street, New Haven, Connecticut	Connecticut Clinical Congress	Sept. 1944. Announced. 3 days	2
American College of Physicians, 4200 Pine Street, Philadelphia 4, Pennsylvania At: Chicago Institutions	Special Phases of Internal Medicine	Oct. 23 thr. Nov. 4, 1944, 2 weeks	Members 40 Nonmembers 80 [3]
University of Minnesota, Minneapolis Mayo Foundation, Rochester, Minnesota University of Oregon, Portland, Oregon	Special Phases of Internal Medicine	Oct. 9 thr. 21, 1944, 2 weeks	Members 40 Nonmembers 80 [3]
	General Medicine	Oct. 2 thr. 7, 1944, 1 week	Members 20 Nonmembers 40 [3]
Philadelphia Institutions	Special Medicine	Nov. 13 thr. 24, 1944, 2 weeks	Members 40 Nonmembers 80 [3]
Illinois State Medical Society and Chicago Medical Society (Interstate Postgraduate Medical Association of North America), 16 North Carroll Street, Madison, Wisconsin At: Palmer House, Chicago, Illinois	General Medicine	Oct. 17 thr. 20, 1944, 4 days	5
Loyola University School of Medicine, 706 South Wolcott Avenue, Chicago, Illinois. At: Stevens Hotel, Chicago, Illinois	Postgraduate Refresher [7]	Oct. 13-14, 1944, 2 days	1
Mississippi Valley Medical Society, 209-224 W. C. U. Building, Quincy, Illinois. At: Pere Marquette Hotel, Peoria, Illinois	Papers for Physicians in General Practice	Sept. 27-28, 1944, 2 days	4
Kentucky State Medical Association, 620 South 3d Street, Louisville 2, Kentucky. At: Various places throughout Kentucky	Postgraduate Medical Extension Course	Arranged. 4 weeks, once a week (4 hours a day)	1 [8]
Harvard Medical School Courses for Graduates, 25 Shattuck Street, Boston 15, Massachusetts At: Boston City Hospital	General Course in Internal Medicine	Sept. 1 thr. 30, 1944, 1 month daily except Saturday	150
Tufts Medical School Postgraduate Division, 30 Bennett Street, Boston 11, Massachusetts	Internal Medicine	Oct. 2 thr. 27, 1944, 3 weeks	50
University of Minnesota. At: University of Minnesota Center for Continuation Study, Minneapolis 14, Minnesota	Medicine	Announced. 3, 6 or 12 days	15, 25, 50
	Preventive Medicine	Announced. 3, 6 or 12 days	15, 25, 50
Kansas City Southwest Clinical Society, 208 Shukert Building, Kansas City 6, Missouri At Municipal Auditorium, Kansas City, Missouri	Symposia on Systems and Annual Fall Clinical Conference	Oct. 2, 3, 4, 1944, 3 days	5 [3]
University of Michigan Medical School, Ann Arbor, Michigan At: 9 areas throughout Michigan	Extramural Postgraduate Course	Fall 1944, 1 day weekly, 4 times	None
Aero Medical Association of the United States, 318 Walnut Street, Muncie, Indiana. At Jefferson Hotel, St. Louis, Missouri	Aviation Medicine	Sept. 4, 5, 6, 1944, 3 days	5
Omaha Mid-West Clinical Society, 1036 Medical Arts Building, Omaha 2, Nebraska. At Hotel Paxton, Omaha, Nebraska	Refresher Course in General Medicine	Oct. 23 thr. 27, 1944, 5 days	5 [3, 9]
Long Island College of Medicine, Medical Society of County of Kings and Academy of Medicine, Brooklyn At: Israel Zion Hospital, 4802 10th Avenue, Brooklyn, N. Y.	Pathology of Internal Medicine	Oct. 17, 1944 or arranged 16 Tuesdays or arranged	45
University of Buffalo Medical College, 24 High Street, Buffalo, New York. At: University of Buffalo, Buffalo General Hospital, Children's Hospital, Meyer Memorial Hospital	Postgraduate Course for Practitioners	Arranged, late in September, 1 week	30
Columbia University. At Mt. Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Liver and Biliary Passage	Oct. 4 thr. Dec. 13, 1944, 11 weeks	40
	Chemical Data	Oct. 4 thr. Nov. 8, 1944, 6 weeks	20
New York Academy of Medicine, 2 East 103d Street, New York, New York	Infections and Their Treatment	Oct. 9 thr. 20, 1944, 2 weeks	..
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York	Physical Diagnosis and Hematology	Arranged. 30 hours	100
	Medicine	Arranged. 1 month	100
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Course for General Practitioners	Arranged. 3 months	150 [3, 4]
	Course for General Practitioners	Arranged. 6 weeks	100 [3, 4]
Duke University, Durham, North Carolina	General Medicine	Arranged. 1 or 2 weeks	None
Alumni Association, Medical College of State of South Carolina, 16 Lucas Street, Charleston 16, South Carolina	Alumni Continuation Course (Gen. Med., Gen. Surg., and Obstet.)	Nov. 1 and 2, 1944, 2 days	5 to 10 [10]
University of Wisconsin, 418 North Randall Avenue, Madison 6, Wisconsin. At: Wisconsin General Hospital, Madison, Wis.	Observation Course in Medical and Clinical Subjects	Arranged. 1 to 5 months	per mo. 100
NEUROLOGY AND PSYCHIATRY **(See Also Electroencephalography)**			
Catholic University of America, Washington, D. C. At: St. Elizabeth's Hospital, Anacostia, D. C.	Technic of Analytic Therapy	Oct. 4, 1944, approximately 3 months	$150 semes. $10 per sem. hr. if less than 7 hr. taken
	Case Studies	Oct. 4, 1944, Thursdays, Approximately 3 months	$150 semes. $10 per sem. hr. if less than 7 hr. taken
	Case Conferences	Oct. 4, 1944, Mondays, Approximately 3 months	$150 semes. $10 per sem. hr. if less than 7 hr. taken
Institute of Medicine of Chicago, 86 East Randolph Street, Chicago 1, Illinois. At: Palmer House, Chicago	Nervous and Mental Diseases and War	Nov. 1-2, 1944, 2 days	5 [3]
Institute of Psychoanalysis, 43 East Ohio Street, Chicago 11, Illinois	Development of Personality [11]	July 3 thr. Aug. 10, 1944, 6 weeks, Mondays and Thursdays	20
	Psychosomatic Medicine	Announced	None
Kansas Medical Society, 112 West 6th Street, Topeka, Kansas At: 5-7 areas throughout Kansas	Psychiatry [6]	Oct. 1944, 1½ days	..
University of Minnesota. At: University of Minnesota Center for Continuation Study, Minneapolis 14, Minnesota	Neuropsychiatry	Announced. 3, 6 or 12 days	15, 25, 50

References will be found on p. 747.

Graduate Continuation Courses for Practicing Physicians—June 30, 1944–Dec. 31, 1944—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
American Institute for Psychoanalysis, 240 Central Park South, New York, New York	Introductory Lectures on Psychoanalytic Technique	1st week in Oct. 1944, 5 weekly lectures	Arranged
	Readings in Psychoanalysis	1st week in Oct. 1944, 15 weekly seminars	Arranged
	Transference Problems [12]	1st week in Dec. 1944, 5 weekly lecture-seminars	Arranged
	Clinical Conferences [12]	3d week in Sept. 1944, 15 weekly seminars	Arranged
At: New School for Social Research, 66 West 12th Street, New York, New York	Seminar on Rohrschach Method of Personality Analysis [11]	1st week in Oct. 1944, 15 weekly seminars	Arranged
	Psychology of Wartime and Civilian Casualties [11]	1st week in Oct. 1944, 12 weekly lectures	Arranged
	Seminar on Personal Case Histories [11]	1st week in Oct. 1944, 15 weekly seminars	Arranged
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Neurology and Psychiatry in Childhood	Oct. 23 thr. 28, 1944, 6 days full time	$50
	Neurological and Psychiatric Diagnosis and Treatment in General Practice	Oct. 30 thr. Nov. 4, 1944, 6 days, full time	45
Columbia University. At Mt. Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Nerve Blocking (Diagnosis and Therapy) [1]	Oct. 3 thr. Nov. 3, 1944, 4 weeks	40
	Clinical Neurology (advanced)	Oct. 2, 1944 thr. Jan. 5, 1945	45-50
	Neuroanatomy and Neuropathology	Oct. 2, 1944, 76 hours	100
	Neuroanatomy	Oct. 2, 1944, 46 hours	75
	Neuropathology	Oct. 2, 1944, 30 hours	60
At: Neurological and Psychiatric Institute, 706 West 168th Street, New York 32, New York	Trimester in Neurology and Psychiatry [1]	Arranged. 2 months full or part time	$250 for 2 mo. full time
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York	Applications of Rohrschach Test in Psychiatric Diagnosis	Arranged. 10 hours	25
	Psychosomatic Medicine	Arranged. 15 hours	30
	Introduction to Analytic Psychiatry	Oct. 1, 1944, 10 hours	25
University of Pennsylvania Graduate School of Medicine, 237 Medical Laboratories, Philadelphia, Pennsylvania	Clinico-biologic Neurology and Psychiatry [13]	Arranged. 10 weeks, 250 hours	100
At: University of Pennsylvania Medical Laboratory, Graduate, University, Philadelphia and Pennsylvania Hospitals and Pennsylvania Institute, Philadelphia	Clinical Psychiatry	Arranged. 8 weeks, 240 hours	100
NEUROSURGERY			
University of Minnesota. At: University of Minnesota Center for Continuation Study, Minneapolis 14, Minnesota	Neurosurgery	Announced. 3, 6 or 12 days	15, 25, 50
NUTRITION			
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Nutrition in Health and Disease	Sept. 25 thr. 29, 1944, 5 days, full time	45
OBSTETRICS AND GYNECOLOGY			
(See Also Anatomy)			
University of Illinois College of Medicine, 1853 West Polk Street, Chicago 12, Illinois	Combined Obstetric and Pediatric Refresher (some Gynecology may be substituted)	Aug. 21 thr. 26, 1944, 1 week	10
	Obstetrics and Gynecology	Throughout year, 1 week	10 [10]
Kansas Medical Society, 112 West 6th Street, Topeka, Kansas At: 5-7 areas throughout Kansas	Obstetrics [6]	July 1944, 1½ days	5
Louisiana State Board of Health, New Orleans 7, Louisiana At: Louisiana State University	Refresher Course in Obstetrics	Announced. 2 weeks	None
Harvard Medical School Courses for Graduates, 25 Shattuck Street, Boston 15, Massachusetts			
At: Free Hospital for Women, Boston	Gynecology [2]	July, Aug., Sept. 1944, arranged	per mo. 75
At: Boston Lying-In Hospital	Clinical Obstetrics	Monthly, daily, 1 month or longer	125
At: Free Hospital for Women, Boston, Boston Lying-In Hosp.	Pathology of Obstetrics and Gynecology	Oct., Nov., Dec. 1944, 1 month daily	125
University of Minnesota. At: University of Minnesota Center for Continuation Study, Minneapolis 14, Minnesota	Obstetrics and Gynecology	Announced. 3, 6 or 12 days	15, 25, 50
University Extension Division, Columbia University At: Margaret Hague Maternity Hospital, 88 Clifton Place, Jersey City 4, New Jersey	Observation Course in Obstetrics	First of any month, 1 month	100
Long Island College of Medicine, Medical Society of County of Kings and Academy of Medicine, Brooklyn At: Long Island College Hospital, 340 Henry Street, Brooklyn	Prenatal Care	Oct. 26, 1944, 8 Thursdays	10
	Manikin	Oct. 24, 1944, 10 Tuesdays	10
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Symposium on Recent Advances in Gynecology	Sept. 11 thr. 16, 1944, 6 days, full time	50
	Seminar in Gynecology	Oct. 2 thr. Nov. 30, 1944, 1 or 2 months, full time	1 mo. 125 2 mo. 225
	Gynecological Endocrinology	Oct. 4 thr. Nov. 25, 1944, 2 months, part time	100
	Diagnosis and Office Treatment	Oct. 2 thr. Dec. 23, 1944, arranged, part time	40-60
Columbia University. At Mt. Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Recent Advances in Gynecology	Nov. 13 thr. 18, 1944, 6 days	50
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Obstetrics and Gynecology	Oct. 1, 1944, 2 months, full time	250 [3]
Southern Pediatric Seminar, Saluda, North Carolina	Southern Pediatric Seminar	July 17 thr. 29, 1944	25
Pennsylvania Hospital. At: Philadelphia Lying-In Hospital, 8th and Spruce Streets, Philadelphia 7, Pennsylvania	Graduate Medical Course in Caudal Analgesia	Weekly, 1 week	50
Woman's Medical College of Pennsylvania, Philadelphia 29, Pennsylvania	Practical Gynecology	Arranged	Arranged
	Practical Obstetrics	Arranged	Arranged
Meharry Medical College, Nashville 8, Tennessee	Obstetrics and Pediatrics [14]	Sept. 18 thr. 23, 1944, 6 days	5
OPHTHALMOLOGY			
University of Illinois. At: Illinois Eye and Ear Infirmary, 904 West Adams Street, Chicago 6, Illinois	Gonioscopy [1, 15]	Oct. 12-13, 1944 (tentative), 2 days	50
Children's Memorial Hospital, 707 Fullerton Avenue, Chicago 14, Illinois	Neuromuscular Anomalies of the Eyes [1]	Nov. 5 thr. 10, 1944, 6 days	55
University of Minnesota. At: University of Minnesota Center for Continuation Study, Minneapolis 14, Minnesota	Ophthalmology	Announced. 3, 6 or 12 days	15, 25, 50
American Academy of Ophthalmology and Otolaryngology, Mayo Clinic, Rochester, Minnesota. Home Study Course	Home Study Course in Ophthalmology	Continuously for 9 mo. starting Sept. 1, 1944	10

References will be found on p. 747.

Graduate Continuation Courses for Practicing Physicians—June 30, 1944–Dec. 31, 1944—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Surgery of the Eye [1]	Sept. 27-28, 1944, 2 days full time	$4
	Motor Anomalies of the Eye [1]	Sept. 18 thr. 23, 1944, 6 days full time	60
	Anomalies of Ocular Muscles [1]	Sept. 25 thr. 30, 1944, 6 days full time	50
	Slit Lamp Diagnosis [1]	Oct. 2 thr. 6, 1944, 5 days part time	45
	Ophthalmic Neurology [1]	Oct. 2 thr. 6, 1944, 5 days, part time	45
	Embryology, Histology and Pathology of the Eye [1]	Oct. to Nov. 1944, 15 sessions, part time	75
Columbia University. At Mt. Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Ophthalmic Surgery [1]	Sept. 27 thr. Dec. 13, 1944, 12 weeks	50
	Slit Lamp Microscopy [1]	Oct. 4 thr. Nov. 22, 1944, 8 weeks	20
	Refraction [1]	Oct. 5 thr. Dec. 21, 1944, 11 weeks	45
	Extra-Ocular Muscles [1]	Oct. 7 thr. Nov. 25, 1944, 8 weeks	20
	Histopathy of the Eye [1]	Sept. 29 thr. Dec. 15, 1944, 12 weeks	50
	External Diseases of the Eye [1]	Oct. 5, 1944 thr. Jan. 25, 1945, 16 weeks	35
	Embryology of the Eye [1]	Oct. 3 thr. Nov. 21, 1944, 8 weeks	35
	Physiological Optics [1]	Oct. 4 thr. Nov. 8, 1944, 6 weeks	25
	Ophthalmological Neurology	Oct. 6 thr. Nov. 24, 1944, 8 weeks	25
	Ophthalmoscopy (Elementary)	Sept. 25 thr. Dec. 11, 1944, 12 weeks	20
At: New York Eye and Ear Infirmary, 218 2d Avenue, New York 3, New York	Plastic Surgery [1]	Arranged. 13 hours	75
	Operative Eye Surgery (cadaver) [1]	Arranged. 1 month	75
	Glaucoma Clinic [1]	Arranged. 10 hours	40
	Neuro-Ophthalmology [1]	Arranged. 1 month	30
	Perimetry [1]	Arranged. 1 month	40
	Reading Disabilities [1]	Arranged. 2 weeks	30
	Orthoptics [1]	Arranged. 1 month	40
	Motor Anomalies and Orthoptics [1]	Arranged. 1 month	40
	Refraction [1]	Arranged. 3 months	100
	Slit Lamp Microscopy [1]	Arranged. 1 month	50
	Ophthalmoscopy [1]	Arranged. 1 month	40
	External Eye Diseases—Ocular Therapy [1]	Arranged. 1 month	40
	Bacteriology, Serology and Immunology [1]	Arranged. 1 month	40
	Histopathology [1]	Arranged. 3 months	85
	Embryology [1]	Arranged. 1 month	40
	Anatomy and Physiology [1]	Arranged. 1 month	40
	Contact Lenses, Telescopic Spectacles, Optics [1]	Arranged. 1 month, 2 months	1 mo. 40 2 mo. 75
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Refraction	Arranged. 6 weeks, part time	100 [3, 4]
	Ophthalmology (also cadaver)	Oct. 1, 1944, 3 months, part time	275 [3, 4]
	Refraction	Oct. 1, 1944, 6 weeks, part time	100 [3, 4]
	Ophthalmology	Oct. 1, 1944, 6 weeks, part tiime	50 [3]
University of Pennsylvania Graduate School of Medicine At: Wills Eye Hospital, 1601 Spring Garden, Philadelphia, Pennsylvania	Ophthalmic Histology and Pathology	Arranged. 8 weeks, 96 hours	200
Alumni Association of Medical College of State of South Carolina, Charleston, South Carolina	Ophthalmological and Otorhinological Continuation Course	Nov. 1-2, 1944, 2 days	None
Virginia Society of Otolaryngology and Ophthalmology, Box 1685, University Station, Charlottesville, Virginia At: University of Virginia Medical School and Hospital, Charlottesville, Virginia	Ophthalmology (given in conjunction with 2 day course in Otolaryngology)	Approximately 2d week in Dec. 1944, 2 days	10
ORTHOPEDIC SURGERY (See Also Anatomy, Fractures)			
University of Minnesota. At: University of Minnesota Center for Continuation Study, Minneapolis 14, Minnesota	Orthopedics	Announced. 3, 6 or 12 days	15, 25, 50
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Orthopedics in General Practice	Oct. 23 thr. 28, 1944, 6 days, full time	50
Columbia University. At Mt. Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Injuries to Bones and Joints	Oct. 2 thr. Nov. 23, 1944, 8 weeks	25
OTOLOGY			
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Surgical Anatomy as Applied to Otology [1]	Arranged. Part time	per hr. 10
Columbia University. At Mt. Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Histopathy of the Ear [1]	Oct. 3 thr. Nov. 9, 1944, 6 weeks	50
Columbia University. At: New York Eye and Ear Infirmary, 218 2d Avenue, New York 3, New York	Anatomy of Temporal Bone [1]	Arranged. 1 month	45
	Clinical Otology [1]	Arranged. 1 month	40
University of Pennsylvania Graduate School of Medicine At: University of Pennsylvania Anatomical Laboratory, Philadelphia, Pennsylvania	Otologic (Cadaver) Operations	Arranged. 2 weeks, 20 hours	100
OTORHINOLARYNGOLOGY (See Also Anatomy, Endoscopy)			
University of Illinois College of Medicine, 1853 West Polk Street, Chicago 12, Illinois	Refresher Course of Otolaryngology for Specialists [1]	Sept. 25, 1944, 1 week	50
American Academy of Ophthalmology and Otolaryngology, Mayo Clinic, Rochester, Minnesota. Home Study Course	Home Study Course in Otolaryngology	Sept. 1, 1944, continuously for 9 months	10
University of Minnesota. At: University of Minnesota Center for Continuation Study, Minneapolis 14, Minnesota	Otolaryngology	Announced. 3, 6 or 12 days	15, 25, 50
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Surgical Anatomy as Applied to Rhinology and Laryngology [1]	Arranged. Part time	per hr. 10
	Diagnostic Procedures	Oct to Dec. 1944, arranged, part time	40-60
	Embryology, Histology and Pathology of Ear, Nose and Throat [1]	Oct. to Nov. 1944, 15 sessions, part time	75
Columbia University. At: New York Eye and Ear Infirmary, 218 2d Avenue, New York 3, New York	X-Ray [1]	Arranged. 6 hours	25
	Operative Ear Surgery, Nasal Sinuses (Cadaver) [1]	Arranged. 1 month	110
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Otolaryngology (Eye, Ear, Nose and Throat)	Oct. 1, 1944, 6 weeks, full time	100 [3]
	Otolaryngology (Ear, Nose and Throat)	Oct. 1, 1944, 6 weeks, part time	75 [3]
	Otolaryngology (also Cadaver)	Oct. 1, 1944, 3 months, full time	600 [3]
Virginia Society of Otolaryngology and Ophthalmology, Box 1685, University Station, Charlottesville, Virginia At: University of Virginia Medical School and Hospital, Charlottesville, Virginia	Otolaryngology (given in conjunction with 2 day course in Ophthalmology)	Approximately 2d week in Dec. 1944, 2 days	10

References will be found on p. 747.

Graduate Continuation Courses for Practicing Physicians—June 30, 1944–Dec. 31, 1944—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
PATHOLOGY			
Catholic University of America, Washington, D. C. At: St. Elizabeth's Hospital, Anacostia, D. C.	Brain Pathology	Oct. 4, 1944, approximately 3 months	$150 semes. If less than 7 hr., $10 per semes. hr.
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Practical Laboratory Instruction in Pathology and Bacteriology	Arranged	Arranged
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Gross and Microscopic Pathology	Sept. 15 thr. Oct. 30, 1944, approximately 6 weeks	50
	Surgical Pathology	Sept. 26, 1944 thr. Jan. 4, 1945, approximately 14 weeks	150
	Pathology of Blood and Blood Forming Organs	Nov. 1, thr. 30, 1944, 1 month, part time	75
	Pathological Physiology: Functional and Chemical Aspects	Oct. 9 thr. 13, 1944, 5 days, full time	45
PEDIATRICS (See Also Allergy, Cardiovascular Diseases, Endocrinology, Neurology and Psychiatry Obstetrics and Gynecology)			
Children's Memorial Hospital, 707 Fullerton Avenue, Chicago 14, Illinois	Postgraduate Course in Pediatrics	Oct. 2 thr. 28, 1944, 4 weeks	100
Kansas Medical Society, 112 West 6th Street, Topeka, Kansas At: 5-7 areas throughout Kansas	Pediatrics [6]	July 1944, 1½ days	5
Harvard Medical School Courses for Graduates, 25 Shattuck Street, Boston 15, Massachusetts At: Massachusetts General Hospital and Infants' and Children's Hospital, Boston, Massachusetts	Pediatrics (A)	July 31 thr. Aug. 12, 1944, 2 weeks, daily	$75 ($50 extra for added 2 wk.)
University of Minnesota. At: University of Minnesota Center for Continuation Study, Minneapolis 14, Minnesota	Pediatrics	Announced. 3, 6 or 12 days	15, 25, 50
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Symposium on Recent Advances in Pediatrics	Oct. 16 thr. 21, 1944, 6 days, full time	50
Columbia University. At Mt. Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Clinical Pediatrics	Oct. 3 thr. Nov. 23, 1944, 8 weeks	50
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Pediatrics	Arranged. 4 weeks, part time	50 [3]
Southern Pediatric Seminar, Saluda, North Carolina	Southern Pediatric Seminar	July 17 thr. 29, 1944, 12 days	25
William Buchanan Foundation. At: Children's Hospital and University of Texas Medical Branch, Galveston, Texas	Pediatric Conference	Announced. 2 days	None
PHYSICAL THERAPY			
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Practical Instruction in Physical Therapy as Applied to Diseases of the Skin	Arranged. Part time, 6 weeks, 3 months	6 wk. 50 3 mo. 85
Columbia University. At: Mt. Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Physical Therapy	Oct. 3 thr. Nov. 23, 1944, 8 weeks	35
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	General Course in Physical Therapy	Arranged. 4 weeks, part time	100 [3, 4]
American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago 2, Illinois. At Statler Hotel, Cleveland, Ohio	Physical Therapy Lectures	Sept. 6, 7, 8, 1944, 3 days	$2 single lec. $15 9 lect.
POLIOMYELITIS			
Postgraduate School of Physical Therapy Warm Springs Found. At: Georgia Warm Springs Foundation, Warm Springs, Ga.	Treatment of Acute and Convalescent Poliomyelitis	First Monday of each month, 5 consecutive days	None
University of Minnesota. At: University of Minnesota Center for Continuation Study, Minneapolis 14, Minnesota	Kenny Technique for Management of Infantile Paralysis	Every other month, 6 days	25
PROCTOLOGY			
Tufts Medical School Postgraduate Division, 30 Bennett Street, Boston 11, Massachusetts	Proctology I	Oct. 23 thr. 28, 1944, 6 days	25
	Proctology II	Nov. 6 thr. Dec. 1, 1944, 2 or 4 weeks	50 to 100
Long Island College of Medicine, Medical Society of County of Kings and Academy of Medicine, Brooklyn At: Jewish Hospital, 555 Prospect Street, Brooklyn, New York	Proctology	Oct. 16, 1944, twice weekly for 4 weeks	25
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Surgical Anatomy as Applied to Colon and Rectum [1]	Arranged. Oct to Dec. 1944, 12 hours, part time	100
Columbia University. At Mt. Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Proctology for Surgeons (Advanced) [1]	Oct. 4 thr. Nov. 24, 1944, 8 weeks	65
	Medical Proctology	Oct. 3 thr. Nov. 21, 1944, 8 weeks	25
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Proctology	Oct. 1, 1944, 6 weeks, part time	75 [3]
	Proctology (Cadaver)	Oct. 1, 1944, 6 weeks, part time	200 [3, 4]
PUBLIC HEALTH			
University of Michigan School of Public Health, Ann Arbor, Michigan	Public Health Economics	Announced. 3 days to 2 weeks	..
	Postwar Preparation for County and City Health Officers	Announced. 3 days	..
University of Minnesota. At: University of Minnesota Center for Continuation Study, Minneapolis 14, Minnesota	Public Health	Announced. 3, 6 or 12 days	15, 25, 50
University of North Carolina School of Public Health, Chapel Hill, North Carolina	Public Health and Related Fields	Arranged. 1 quarter	100
RADIOLOGY (See Also Dermatology and Syphilology)			
American Roentgen Ray Society and Radiological Society of North America, 7144 Jeffery Avenue, Chicago, Illinois At: Palmer House, Chicago, Illinois	Refresher Course Program	Sept. 24 thr. 29, 1944, 6 days	$2 to $5 [3, 10]
Harvard Medical School Courses for Graduates, 25 Shattuck Street, Boston 15, Massachusetts At: Boston City Hospital	General Roentgenology	Monthly except July, 1 month, mornings	50
At: Peter Bent Brigham Hospital, Boston, Massachusetts	General Roentgenology	Monthly. 1 month, daily	100
University of Minnesota. At: University of Minnesota Center for Continuation Study, Minneapolis 14, Minnesota	Radiology	Announced. 3, 6 or 12 days	15, 25, 50
Columbia University. At: Montefiore Hospital, East Gun Hill Road, Bronx, New York	Roentgenology of the Thorax	Oct. 19 thr. Dec. 7, 1944, 2 mo., 1 day per week	35
Long Island College of Medicine, Medical Society of County of Kings and Academy of Medicine, Brooklyn At: Jewish Hospital, 555 Prospect, Brooklyn, New York	X-Ray Diagnosis	Oct. 3, 1944, 10 Tuesdays	20
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York	Radiology	Arranged. 2 months	150
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Diagnostic Roentgenology and Radiotherapy (Advanced)	First of any month, 6 weeks	150 [3, 4]
		3 months, full time	300 [3, 4]

References will be found on p. 747.

Graduate Continuation Courses for Practicing Physicians—June 30, 1944–Dec. 31, 1944—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
SURGERY			
(See Also Anatomy, Obstetrics and Gynecology, Otorhinolaryngology, Proctology)			
Illinois State Medical Society and Chicago Medical Society (Interstate Postgraduate Medical Association of North America, 16 North Carroll Street, Madison, Wisconsin) At: Palmer House, Chicago, Illinois	General Surgery	Oct. 17 thr. 20, 1944, 4 days	$5
University of Minnesota. At: University of Minnesota Center for Continuation Study, Minneapolis 14, Minnesota	Surgery	Announced. 3, 6 or 12 days	15, 25, 50
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Seminar in Traumatic Surgery [1]	Oct. 9 thr. 20, 1944, 11 days, full time	90
	Diagnosis and Treatment of Trauma	Oct. 30 thr. Nov. 4, 1944, 6 days full time	50
	Diagnosis and Management of Diseases of Liver and Gallbladder [1]	Oct. 4 thr. Nov. 15, 1944, 7 sessions, part time	75
	Surgical Anatomy as Applied to Thoracic Surgery [1]	Oct. to Dec. 1944, arranged, 24 hours, part time	200
	Surgery of Thyroid Gland and Gastrointestinal Tract [1]	Oct. 2 thr. Nov. 27, 1944, 9 sessions, part time	125
	Dissection and Surgical Anatomy [1]	Oct. to Dec. 1944, arranged, 24 hours, part time	150
Columbia University. At: Roosevelt, Mount Sinai, Presbyterian and New York Postgraduate Hospitals, New York, New York	Symposium on General Surgery [1]	Oct. 23 thr. 27, 1944, 5 days	75
New York Medical College, Flower and Fifth Avenue Hospitals, 1 East 105th Street, New York, New York	Surgical Technique	Arranged. 52 hours	375
New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, New York	Surgical Operative Clinic and Lecture Course	Oct. 1, 1944, 6 weeks, full time	100 [3]
	Combined Surgical Course	Oct. 1, 1944, 3 months, full time	350 [3, 4]
Oklahoma State Medical Association, 210 Plaza Court Building, Oklahoma City 3, Oklahoma At: Various areas throughout Oklahoma	Surgical Diagnosis	July 24 thr. Sept. 29, 1944	9
		Oct. 2 thr. Dec. 15, 1944	Negroes 3
		Dec. 18, 1944 thr. Feb. 23, 1945 10 weeks, 1 night per week	Interns free
Tennessee State Medical Association. Committee on Postgraduate Instruction in Surgical Diagnosis, 4 University Center Bldg., Memphis, Tennessee At: Various areas throughout Tennessee	Postgraduate Instruction in Surgical Diagnosis	July 17 thr. Sept. 22, 1944	10
		Sept. 25 thr. Dec. 1, 1944, 10 weeks	Negroes 3.50 Interns 2.50
THERAPY			
Columbia University. At: Mt. Sinai Hospital, 5th Avenue and 100th Street, New York 29, New York	Recent Advances in Therapy	Oct. 4 thr. Nov. 22, 1944, 8 weeks	25
	Diagnosis and Therapy	Oct. 2 thr. Dec. 4, 1944, 9 weeks	50
	General Bedside Therapy	Oct. 2 thr. Nov. 24, 1944, 8 weeks	25
TROPICAL MEDICINE			
Tulane University of Louisiana School of Medicine, 1430 Tulane Avenue, New Orleans, Louisiana	Tropical Medicine	Oct. 2, 1944, 5 months	..
University of Michigan School of Public Health, Ann Arbor, Michigan	Tropical Diseases	Announced. 3 days	..
Columbia University. At: Mt. Sinai Hospital 5th Avenue and 100th Street, New York 29, New York	Tropical Medicine	Oct. 2 thr. Nov. 24, 1944, 8 weeks	25
University of Texas Medical Branch, Galveston, Texas	Symposium on Tropical Diseases	Announced. 2 days	None
UROLOGY			
(See Also Anatomy and Endoscopy)			
University of Minnesota Center for Continuation Study, Minneapolis 14, Minnesota	Urology	Announced. 3, 6 or 12 days	15, 25, 50
Long Island College of Medicine, Medical Society of County of Kings, and Academy of Medicine, Brooklyn. At: Long Island College Hospital, 340 Henry Street, Brooklyn, New York	Urology	First of each month, 1 month or longer	per mo. 25
Columbia University, New York Postgraduate Medical School, 303 East 20th Street, New York 3, New York	Urological Diagnosis in General Practice	Oct. 2 thr. 13, part time	50
	Recent Advances in Urology [1]	Nov. 13 thr. 18, 1944, 6 days, full time	60
Woman's Medical College of Pennsylvania, Philadelphia 29, Pennsylvania	Female Urology	Arranged. 16 weeks, 3 hours per week	100
VENEREAL DISEASE			
(See Also Dermatology & Syphilology)			
United States Public Health Service, Hot Springs National Park, Arkansas	Management and Control of Venereal Diseases	Announced. 3 weeks	..
New York City Department of Health. At: Bureau of Social Hygiene, 125 Worth Street, New York, New York	Postgraduate Course in Venereal Disease [17]	Continuously, 10 weeks	None
Institute for Control of Syphilis, University of Pennsylvania, Philadelphia 4, Pennsylvania	10 days' Intensive Training Course in Venereal Disease Control	Arranged. 10 days	25
	3 wk. Venereal Disease Review Course [18]	Arranged. 3 weeks	35
	6 mo. Essential Basic Training Course [18]	Arranged. 6 months	125
	4 wk. Intensive Review Course [18]	Arranged. 4 weeks	50

1. For specialists only.
2. Women not admitted.
3. Free or special fee to physicians in service.
4. Grants may be made from scholarship fund.
5. A few scholarships covering tuition for tuberculous physicians.
6. For members of Kansas Medical Society and physicians in service.
7. Dentists also are admitted.
8. For certificate of attendance if physician has attended 3 of 4 meetings.
9. Full time faculty members of Creighton and Nebraska University free.
10. Varying with time of attendance.
11. Laymen also admitted.
12. For psychiatrists in training for practice of psychoanalysis.
13. For staff members of mental institutions.
14. For Negro physicians.
15. For physicians who have had at least 2 years' special training in ophthalmology or 5 years' experience in same.
16. Free to members of two societies, fellows, residents and interns in radiology.
17. Licensed physicians in New York City.
18. For public health officers, etc.
19. Illinois physicians free.
20. For physicians who have had experience in electrocardiography.

Medical Examinations and Licensure

COMING EXAMINATIONS AND MEETINGS

EXAMINING BOARDS IN SPECIALTIES

Examinations of the Examining Boards in Specialties were published in THE JOURNAL, July 1, page 674.

BOARDS OF MEDICAL EXAMINERS

ALABAMA: Montgomery, Oct. 24-26. Sec., Dr. B. F. Austin, 519 Dexter Ave., Montgomery.

ALASKA: Juneau, September 5. Sec., Dr. W. M. Whitehead, Box 561, Juneau.

COLORADO: * Denver, July 10-12. Sec., Dr. J. B. Davis, 831 Republic Bldg., Denver.

CONNECTICUT: * *Written.* New Haven, July 11-12. *Endorsement.* New Haven, July 25. Sec. to the Board, Dr. Creighton Barker, 258 Church St., New Haven. *Homeopathic.* Derby, July 11-12. Sec., Dr. J. H. Evans, 1488 Chapel St., New Haven.

DELAWARE: Dover, Oct. 10-12. Sec., Medical Council of Delaware, Dr. J. S. McDaniel, 229 S. State St., Dover.

DISTRICT OF COLUMBIA: * Washington, November. Sec., Commission on Licensure, Dr. G. C. Ruhland, 6150 E. Municipal Bldg., Washington.

HAWAII: Honolulu, July 10-13. Sec., Dr. J. A. Morgan, 55 Young Bldg., Honolulu.

IDAHO: Boise, July 11. Dir., Bureau of Occupational Licenses, Mrs. Lela D. Painter, 355 State Capitol Bldg., Boise.

INDIANA: Indianapolis, Jan. 3-5. Exec. Sec., Board of Medical Registration and Examination, Miss Ruth V. Kirk, 301 State House, Indianapolis 4.

IOWA: * Iowa City, Sept. 25-27. Dir. Division of Licensure and Registration, Mr. H. W. Grefe, Capitol Bldg., Des Moines.

KANSAS: Nov. 2-3 Sec., Board of Medical Registration and Examination, Dr. J. F. Hassig, 905 N. Seventh St., Kansas City.

KENTUCKY: Louisville, Sept. 11-12. Sec., State Board of Health, Dr. Philip E. Blackerby, 620 S. Third St., Louisville.

LOUISIANA: September. Sec., Dr. R. B. Harrison, 1507 Hibernia Bank Bldg., New Orleans.

MASSACHUSETTS: Boston, July 11-14. Sec., Board of Registration in Medicine, Dr H. Q. Gallupe, 413-F State House, Boston.

MICHIGAN: * Ann Arbor, July 24-26. Sec., Board of Registration in Medicine, Dr. J. E. McIntyre, 100 W. Allegan St., Lansing 8.

MINNESOTA: * Minneapolis, Aug. 29-31. Sec., Dr. J. F. Du Bois, 230 Lowry Medical Arts Bldg., St. Paul.

MISSOURI: St. Louis, Sept. 7-9. Sec., State Board of Health, Dr. James Stewart, State Capitol Bldg., Jefferson City.

MONTANA: Helena, Oct. 2-4. Sec., Dr. O. G. Klein, First Nat'l. Bank Bldg., Helena.

NEBRASKA: * Omaha, Sept. 26-28. Dir., Bureau of Examining Boards, Mr. Oscar F. Humble, 1009 State Capitol Bldg., Lincoln.

NEVADA: Carson City, Aug. 7. Sec., Dr. G. H. Ross, 215 N. Carson St., Carson City.

NEW HAMPSHIRE: Concord, Sept. 14-15. Sec., Board of Registration in Medicine, Dr. D. G. Smith, 77 Main St., Nashua.

NEW MEXICO: * Santa Fe, Oct. 9-10. Sec., Dr. LeGrand Ward, 141 Palace Ave., Santa Fe.

NORTH CAROLINA: Raleigh, Sept. 11-12. Sec., Dr. W. D. James, Hamlet.

OHIO: *Examination.* Columbus, Sept. 26-29. *Endorsement.* Columbus, Oct. 3. Sec., Dr. H. M. Platter, 21 W. Broad St., Columbus.

OKLAHOMA: * Oklahoma City, Sept. 16. Sec., Dr. J. D. Osborn, Jr., Frederick.

OREGON: * Portland. July 26-27. Exec. Sec., Miss L. M. Conlee, 608 Failing Bldg., Portland.

PENNSYLVANIA: Harrisburg, July 11-15. Act. Sec., Bureau of Professional Licensing, Department of Public Instruction, Mrs. M. G. Steiner, 358 Education Bldg., Harrisburg.

SOUTH DAKOTA: Pierre, July 18-19. Dir., Medical Licensure, State Board of Health, Dr. Gilbert Cottam, Pierre.

VERMONT: Burlington, Sept. 12-14. Sec., Dr. F. J. Lawliss, Richford.

VIRGINIA: Richmond, Sept. 19-22. Sec., Dr. J. W. Preston, 30½ Franklin Rd., Roanoke.

WASHINGTON: * Seattle, July 10-12. Dir., Department of Licenses, Mr. Thomas A. Swayze, Olympia.

* Basic Science Certificate required.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

DISTRICT OF COLUMBIA: Washington, October. Sec., Commission on Licensure, Dr. G. C. Ruhland, 6150 E. Municipal Bldg., Washington.

FLORIDA: Gainesville, Nov. 4. Final date for filing application is Oct. 20. Sec., Dr. J. F. Conn, John B. Stetson University, DeLand.

IOWA: Des Moines, July 11. Dir., Division of Licensure and Registration. Mr. H. W. Grefe, Capitol Bldg., Des Moines.

RHODE ISLAND: Providence, Aug. 16. Chief, Division of Examiners, Mr. Thomas B. Casey, 366 State Office Bldg., Providence.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Malpractice: Appendicitis Mistaken for Ptomaine Poisoning.—Donald Lawless, a 12 year old boy, on March 1, 1939 suffered abdominal pains with attendant vomiting and diarrhea. The following day he was taken to the physician defendant, who took the case history (which indicated that the boy had eaten moldy bologna the previous day), examined the boy's abdomen by palpation and percussion, took his temperature and examined his chest and lungs. The physician informed an aunt who accompanied the boy to his office that the boy probably had an attack of ptomaine poisoning but also stated "it sounds like we might have an attack of appendicitis." He recommended a diet, prescribed medicine for ptomaine poisoning and ordered the boy put to bed with an ice bag on the abdomen. On March 3 the physician was told that the patient seemed better. The next day, however, his condition seemed worse and he was removed to a hospital, where blood and urine analyses were taken. The hospital record dated on admittance contained the following entry labeled working diagnosis: "After physical examination, ptomaine, due to eating molded biloni—Possible appendicitis involved." The physician visited his patient daily or more often. On March 7 the physician's office associate, after consultation, made a diagnosis of appendicitis. The boy's condition grew much worse March 9 and the physician advised surgery. Dr. Morgan, a surgeon, was consulted and diagnosed the condition as "peritonitis, possibly due to appendicitis, retrocecal." The ensuing operation, at which the defendant assisted, disclosed a ruptured appendix and the boy died a few hours after the operation. The plaintiff, the mother of the boy, subsequently brought suit for malpractice against the physician defendant. At the conclusion of the plaintiff's evidence the trial court entered a judgment of nonsuit and the plaintiff eventually appealed to the Supreme Court of California.

The plaintiff contended first that the judgment of nonsuit was erroneous since sufficient evidence had been introduced at the trial to warrant a finding by the jury that the physician defendant had been negligent in his diagnosis and treatment of his patient. In passing on this contention the Supreme Court deemed it advisable to state the rules of law measuring a physician's liability for malpractice. The law demands, said the Supreme Court, only that a physician have the degree of learning and skill ordinarily possessed by practitioners of the medical profession in the same locality and that he exercise ordinary care in applying such learning and skill in diagnosing his patient's ailments and in prescribing for and treating his patient. Ordinarily, a physician's failure to possess or exercise the requisite learning or skill can be established only by the testimony of experts. Where, however, negligence on the part of a physician is demonstrated by facts which can be evaluated by resort to common knowledge, expert testimony is not required since scientific enlightenment is not essential for the determination of an obvious fact. The plaintiff argued that the jury could have found that the physician was negligent on the theory that after the physician correctly diagnosed the ailment as appendicitis he failed to treat his patient therefor but instead treated him for ptomaine poisoning. The evidence, answered the court, does not substantiate this premise. It clearly appears that although the physician at all times considered the possibility of appendicitis, he concluded, as a result of his examination, the presence of certain symptoms including diarrhea, and the history of the boy's having eaten moldy

bologna, that his patient was suffering from ptomaine poisoning, and prescribed accordingly.

The plaintiff next argued that the jury could have found that the defendant was negligent in failing to diagnose positively the case as appendicitis at an earlier date than he did and that such a finding could have been based on expert testimony as well as the common knowledge of the jurors. No expert testimony, answered the court, was introduced to show that in light of the case history of the patient, the symptoms manifested, and the facts disclosed by the examination, the defendant was negligent in failing to diagnose the ailment as appendicitis at an earlier date. The only witnesses who appeared and could have qualified as experts were Dr. Morgan, the operating physician and the defendant himself. Dr. Morgan's testimony did not indicate or intimate that the defendant's diagnosis was not consistent with what other physicians in the community would have arrived at under similar circumstances in the exercise of reasonable care. He testified principally as to his own conduct or course of action at a time when the defendant had diagnosed the case as appendicitis. Furthermore, the fact that another physican might have elected to treat the case differently or use methods other than those employed by the defendant does not of itself establish negligence.

As indicating that there was sufficient evidence introduced to warrant a finding of negligence on the part of the defendant, the plaintiff argued that Dr. Morgan's testimony showed that the standard practice in the community required a blood count to be taken when appendicitis was suggested and that the defendant failed to take a blood count. The argument, said the court, however, does not find support in the record. In response to the question "In any case, Doctor, suggesting the presence of appendicitis, in the exercise of that standard of degree of care in this community, is a blood count indicated?" Dr. Morgan answered:

> I cannot answer that yes or no; but I can answer it. Let me explain a few things. When we think of blood count as something which will indicate to us whether there is a pus condition somewhere or reaction to the system of an infection, it does not of itself indicate appendicitis. We take those counts just to verify our idea that there is an infection process in the system, but we do not depend upon it to say that we have appendicitis. I have tried to exp'ain when we take counts and I will . . . also state a great majority of us do when some of us do not.

Dr. Morgan did not say that a blood count should be taken for the purpose of diagnosis in all cases of possible appendicitis. Moreover, as previously noted, the patient's blood count was taken on March 4, when he entered the hospital, and certainly there is no suggestion in Dr. Morgan's testimony that the exercise of ordinary care in this case required the taking of a blood count before March 4, in view of the facts disclosed by the examination.

We believe, continued the court, that expert testimony was necessary to enable the jury to determine the issues in this case. Medical learning was necessary to guide the mind of the unskilled jury in determining whether failure positively to diagnose the illness as appendicitis at an earlier date resulted from negligence on the part of the physician. The proper methods to be employed in the diagnosis of an internal abdominal ailment, as well as the merits of such a diagnosis, are peculiarly within the knowledge or province of experts. The plaintiff argued, however, that laymen are so familiar with the use of roentgenograms that the jurors would have been justified in drawing on their common knowledge as a basis for a finding that the defendant physician was negligent in failing to have roentgenograms taken. While it has been intimated, said the court, in some cases that the use of roentgenograms as an aid to careful diagnosis of traumatic injuries is a matter of common knowledge, we cannot say that the use of roentgenograms in the diagnosis of an internal abdominal ailment such as revealed by the facts in this case is so well established that the jury could have determined, of its own knowledge, that failure to take roentgenograms constituted negligence. It was not only necessary for the plaintiff to prove a mistake in diagnosis, but also that the mistake was due to failure to exercise ordinary care in making the diagnosis, and mere proof that the treatment was unsuccessful is not sufficient to establish negligence. We are satisfied that there is no evidence in the record before us showing that the defendant physician was negligent in the diagnosis or treatment of his patient's ailment. It follows that the trial court could have properly granted a nonsuit.

At the trial the plaintiff called the physician defendant as a witness and propounded the following questions to him:

> 1. From what you saw there, Doctor, you would say that that condition [ruptured appendix] had persisted for at least three days?
>
> 2. Doctor, the normal leukocyte count in a boy 12 years of age is between eight and ten thousand?
>
> 3. Doctor, do you know what the normal leukocyte count in the blood stream of a boy about 12 years of age is?

The trial court sustained objections to these questions on the ground that they called for expert testimony and that an adverse party called as a witness under the applicable California statute cannot be examined as an expert. This action the Supreme Court regarded as error, making it necessary to reverse the judgment of nonsuit. The applicable California statute, said the court, enables a party to call his adversary as a witness and to elicit his testimony without making him his own witness. This statute is remedial in character and should be liberally construed in order to accomplish its purpose. Any relevant matter in issue in a case is within the scope of the examination of a witness called pursuant to the provisions of that statute. It is well settled that a plaintiff in a malpractice action can establish his case by the testimony of the defendant therein. It is equally well settled that expert testimony is ordinarily required to prove the material or relevant issues in an action for malpractice. Neither the letter nor the spirit of the statute suggests any reason why the defendant in such an action should not be examined with regard to the standard of skill and care ordinarily exercised by physicians in the community under like circumstances and with respect to whether his conduct conformed thereto, even though such examination calls for expert testimony.[1]

The plaintiff failed, although it was incumbent on her, to establish by expert testimony the standard of skill and care ordinarily exercised by practitioners in the community under like circumstances and that the defendant physician's conduct in this instance was not consistent therewith. While it may be true that favorable answers to the questions propounded to the defendant when he was called as a witness by the plaintiff would not have supplied the deficiency in expert testimony in this case, the plaintiff was precluded, by virtue of the trial court's ruling, from continuing with the examination of the witness and developing further the line of inquiry which might have elicited the essential expert testimony necessary to prove her case. For this reason the judgment of nonsuit was reversed.—*Lawless v. Calaway, 147 P. (2d) 604 (Calif., 1944).*

1. To the contrary see *Hull* v. *Plume*, 37 A. (2d) 53, J. A. M. A. **125:** 674 (July 1) 1944; *Forthofer* v. *Arnold*, 60 Ohio App. 436, 21 N. E. (2d) 869; *Wiley* v. *Wharton*, 68 Ohio App. 345, 41 N. E. (2d) 255; *Osborn* v. *Carey*, 24 Idaho 158, 132 P. 967.

Society Proceedings

COMING MEETINGS

National Medical Association, St. Louis, Aug. 14-17. Dr. John T. Givens, 1108 Church St., Norfolk, Va., Secretary.

Utah State Medical Association, Salt Lake City, August 24-26. Dr. D. G. Edmunds, 610 McIntyre Bldg., Salt Lake City, Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1934 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American J. Obstetrics and Gynecology, St. Louis

47:445-592 (April) 1944. **Partial Index**

Effect of Interval Between Births on Maternal and Fetal Outlook. N. J. Eastman.—p. 445.
Biologic Characteristics of Normal Vagina. A. E. Rakoff, L. G. Feo and L. Goldstein.—p. 467.
*Acute Anterior Poliomyelitis During Pregnancy. H. M. Weaver and G. Steiner, with technical assistance of Helen Ammon and Norma Hastings.—p. 495.
*Carcinoma of Cervix: End Results. C. A. Behney and J. Y. Howson.—p. 506.
Salmonella Infection in Gynecology. H. C. Falk and G. Blinick.—p. 514.
Uterine Motility Associated with Posterior Positions of Occiput: Observations Made with Lóránd Tocograph. D. P. Murphy.—p. 521.
Voorhees Bag. H. A. Power and H. W. Erving.—p. 527.
Management of Climacteric with Ethinyl Estradiol. R. A. Lyon.—p. 532.
Routine Order of Examinations for Diagnosis of Sterility. W. W. Williams.—p. 537.
Breech Presentation in Elderly Primipara. J. W. Walsh and Katherine Kuder.—p. 541.
Granuloma Pyogenicum of Cervix. R. P. Morehead, W. E. Woodruff and W. C. Thomas.—p. 546.
Eclampsia, Cerebral Abscess and Hemorrhage. S. L. Israel and B. J. Alpers.—p. 551.
Erythroblastosis Fetalis in Identical Twins. N. G. Demy.—p. 554.

Poliomyelitis During Pregnancy.—Weaver and Steiner discuss the question of pregnancy as a factor in susceptibility of the mother to the disease; the question of transmissibility from mother to fetus, and the question of transmissibility of the disease to the offspring through the secretions of the mammary glands. Relatively few cases of poliomyelitis acquired during pregnancy have been reported, but this may be due to incomplete reporting rather than to rarity of occurrence. Of the reported cases the smallest number (17.1 per cent) occurred during the first trimester of pregnancy. Studies by the authors on pregnant cotton rats furnished some evidence that chorionic gonadotropin or some substance associated with the formation or metabolism of this hormone might play a role in increasing the resistance of the pregnant female during the first trimester of pregnancy to the virus of poliomyelitis. There was no evidence that infective quantities of the Armstrong-Lansing strain of the virus of poliomyelitis were transmitted from the mother to the nervous tissues of the fetus in utero or from the mother to the nervous tissues of her offspring through the secretions of the mammary glands.

Carcinoma of Cervix.—Behney and Howson review observations on 580 patients with carcinoma of the cervix uteri and compare them with results obtained in an earlier group of 437 patients. They surveyed altogether 1,007 women with cervical cancer who died in the radiologic service of the Philadelphia General Hospital since 1922. Women with stage 4 lesions treated with external irradiation of high voltage x-ray therapy alone lived longer than those treated with lightly filtered radium alone. The best results were secured in the group in which, after regression of the primary lesion had been brought about by preliminary high voltage x-ray therapy, the patients were subsequently treated with heavily filtered radon at a distance of 1 cm. Since this fact became apparent, it has become the policy to administer external high voltage x-ray therapy preliminary to the radon application in every case of carcinoma of the cervix. The longer duration of life of patients in the recent series who were treated with high voltage x-ray therapy regardless of the stage of the disease is attributed to the fact that these patients were given more adequate dosage than those of the earlier series. External high voltage roentgen therapy is always beneficial and safe for even the most advanced stages of the disease. In many apparently advanced lesions preliminary x-ray therapy will result in sufficient regression of the lesion, so that radon may be applied subsequently. Heavily filtered radon applied at a distance of 1 centimeter results in better palliation than the highly filtered radon in contact application.

American Journal of Ophthalmology, Cincinnati

27:341-466 (April) 1944

New Type of Pigment Line in Cornea. F. W. Stocker and R. E. Prindle.—p. 341.
Ophthalmologic Review of More Than 20,000 Men at Altoona Induction Center. L. P. Glover and W. R. Brewer.—p. 346.
Form and Character of Rod Scotometry. P. C. Livingston.—p. 349.
Ocular Rosacea and Ariboflavinosis. Winifrede M. Fish.—p. 354.
Psychogenic Color Field.—p. 358.
Tumor of Lacrimal Gland. J. J. Flick.—p. 362.
Report on Defects Found in Tonometers Examined at Checking Station of National Society for Prevention of Blindness. M. J. Schoenberg and A. Posner.—p. 368.
Optic Nerve Atrophy in Malignant Nasopharyngeal Tumors. Martha Rubin Folk.—p. 373.
Hyperpyrexia in Treatment of Acute Ocular Inflammations. H. C. Knight, M. Emory and N. Callahan.—p. 381.
Juvenile Cataract in Association with Dermatosis (Cataracta Syndermatotica). D. M. Rolett.—p. 389.
Cholesterinosis Lentis. P. Georgariou and O. Wolfe.—p. 394.

American Journal of Orthopsychiatry, New York

14:189-380 (April) 1944. **Partial Index**

Analysis of Disturbed Adolescent Girl and Collaborative Psychiatric Treatment of Mother. Adelaide M. Johnson and Dora Fishback.—p. 195.
Infant Reactions to Restraint: Problems in Fate of Infantile Aggression. Phyllis Greenacre.—p. 204.
The Parent in Children's Psychiatric Clinic. Katharine M. Wickman and W. S. Langford.—p. 219.
Did Oedipus Have an Oedipus Complex? Sofie Lazarsfeld.—p. 226.
Rorschach Test in Case of Character Neurosis. S. F. Beck.—p. 230.
Mosaic Test: I. Evaluation of Its Clinical Application. B. L. Diamond and H. T. Schmale.—p. 237.
Intelligence Level and Psychotherapy with Problem Children. G. Kriegman and Josephine R. Hilgard.—p. 251.
Psychologic Problems of Later Maturity. G. Lawton, Jeanne G. Gilbert, M. A. Seidenfeld, L. S. Selling, H. R. de Silva and I. L. Peters.—p. 266.
Preliminary Investigation for Normative Study of Fluency: Clinical Index to the Severity of Stuttering. C. H. Voelker.—p. 285.
Correctional Institution in Etiology of Chronic Homosexuality. M. S. Greco and J. C. Wright.—p. 295.
Psychopathic Behavior. A. N. Foxe.—p. 308.
Persistent Enuresis in Adults. M. L. Wadsworth.—p. 313.
Psychiatric Patient in Wartime Community. J. Frosch.—p. 321.

Annals of Internal Medicine, Lancaster, Pa.

20:361-558 (March) 1944

Military Medicine: Old and New. C. C. Hillman.—p. 361.
Aviation Medicine. B. Groesbeck Jr.—p. 367.
Industrial Medical Problems in War Production. T. L. Hazlett.—p. 371.
Management and Prevention of Civilian War Gas Injury. C. D. Leake and D. F. Marsh.—p. 376.
Dermatoses Incident to Industrial and Domestic Occupations. E. S. Lain.—p. 390.
Military Dermatology. L. H. Warren.—p. 395.
*Role of Congestive Heart Failure in Production of Edema of Acute Glomerulonephritis. J. S. LaDue.—p. 405.
Multiple Peripheral Neuritis Occurring with Sulfonamide Therapy. M. A. Blankenhorn.—p. 423.
Why Plasma? R. O. Meuther.—p. 431.
Electrocardiographic Changes After Acute Loss of Blood. D. Scherf and S. D. Klotz.—p. 438.
Primary Carcinoma of Liver. D. L. Wilbur, D. A. Wood and F. M. Willett.—p. 453.
Dissecting Aneurysm of Aorta in Young Individuals, Particularly in Association with Pregnancy, with Report of Case. M. A. Schnitker and C. A. Bayer.—p. 486.
Raw Food Diet: Therapeutic Agent. A. A. Holbrook.—p. 512.

Congestive Heart Failure in Edema of Acute Glomerulonephritis.—LaDue studied 12 patients with acute glomerulonephritis complicated by peripheral edema. The patients were placed on a strict bed rest and given no medication except magnesium sulfate to control convulsions. Four patients were given a low protein, low salt diet, 4 a high protein, low salt diet and 4 the regular house diet. There was no restriction of fluids, but the intake and output were charted. Daily measurements of venous pressure, circulation time, blood pressure, weight and degree of pulmonary, liver or peripheral edema were recorded. Frequent teleroentgenograms and electrocardiograms were made. The urine was examined at least twice a week, and blood urea and phenolsulfonphthalein excretion tests were

done. Blood proteins and albumin globulin ratios were determined. With the severity of heart failure as a basis for classification, the patients fall into three groups. The patients of group 1 had no symptoms of congestive heart failure except edema, but careful study revealed cardiac dilatation and elevated venous pressure. Patients in group 2 had, in addition to edema and elevated venous pressure, moderate to pronounced dyspnea and orthopnea. Patients comprising group 3 had such severe signs and symptoms of congestive heart failure that the administration of digitalis was necessary. The earliest objective evidence of improvement of the heart failure in 7 of 8 patients not given digitalis was a fall in blood pressure; the return to normal of the venous pressure and the disappearance of edema occurred slightly later. There was a significant decrease in the diastolic heart volume of these patients after compensation had been established. The circulation time was normal or low in 11 of 12 patients studied, despite an elevation of the venous pressure. The pulmonic second sound was accentuated in 11 of 12 patients, suggesting the possibility of pulmonary hypertension.

20:559-732 (April) 1944

Clinical Significance of Rh Factor, with Comments Concerning Laboratory Problems. R. R. Kracke and W. R. Platt.—p. 559.
Metabolic Studies in Patients with Cancer of Gastrointestinal Tract: VIII. Chemical Composition of Liver, Especially in Patients with Gastrointestinal Cancer. I. M. Ariel, J. C. Abels, Helen T. Murphy, G. T. Pack and C. P. Rhoads.—p. 570.
Id. IX. Effects of Dietary Constituents on Chemical Composition of Liver, Especially in Patients with Gastrointestinal Cancer. J. C. Abels, I. M. Ariel, Helen T. Murphy, G. T. Pack and C. P. Rhoads.—p. 580.
Bronchial Asthma: Classification Based on Etiologic and Pathologic Factors. M. B. Cohen.—p. 590.
Migraine Headaches Relieved by Hypoglycemic Reaction: Report of 2 Cases. S. J. Tillim.—p. 597.
*Parenteral Use of Sodium Lactate Solution in Prevention of Renal Complications from Parenterally Administered Sodium Sulfadiazine. D. R. Gilligan, J. A. Dingwall III and W. McDermott.—p. 604.
Treatment of Meningococcus Infections with Especial Reference to Waterhouse-Friderichsen Syndrome. F. W. Bush and F. R. Bailey.—p. 619.
*Anabolic Effects of Androgens and Somatic Growth in Man. A. T. Kenyon, Kathryn Knowlton and Irene Sandiford.—p. 632.
Malaria in Army. T. T. Mackie.—p. 655.
Coronary Heart Disease: Angina Pectoris, Acute Coronary Insufficiency and Coronary Occlusion.—p. 661.
Small Intestinal Disorders in Avitaminosis. N. Learner, H. M. Stauffer and C. L. Brown.—p. 675.

Sodium Lactate for Prevention of Renal Complications from Sodium Sulfadiazine.—Gilligan and his associates show that the effectiveness of adjuvant alkali therapy in preventing renal complications from sulfadiazine is attributable to the fact that alkalization of the urine increases the solubility of sulfadiazine and its N-acetyl derivative. They review observations on approximately 100 patients to whom sodium lactate was administered while receiving sodium sulfadiazine parenterally as prophylactic therapy before and after gastric or intestinal resections for ulcer or carcinoma or in the treatment of abdominal abscess or peritonitis. They found that alkalization of the urine with sixth molar sodium lactate solution administered parenterally prevents crystalluria and renal complications consequent to crystalluria during therapy with the usual doses of parenterally administered sodium sulfadiazine. The initial dose of sodium lactate required to alkalize the urine at the onset of therapy with sodium sulfadiazine depends on the degree of acidosis present and varies usually from 500 to 1,500 cc. of sixth molar sodium lactate solution in adults with normal kidney function. Thereafter, 1,100 cc. of sixth molar sodium lactate solution daily is usually sufficient to maintain the urine alkaline and to prevent crystalluria from the sulfadiazine. The plasma carbon dioxide content is not greatly affected by this dosage of lactate solution. No evidence of clinical alkalosis was observed. Caution must be exercised to prevent alkalosis when attempting to alkalize the urine of patients with nephritis. Studies on the sulfadiazine concentrations of blood following intravenous injection of sodium sulfadiazine convinced the authors that it is advisable to administer the drug in the relatively low concentration of 0.5 per cent in sixth molar sodium lactate solution or certain other parenterally utilizable isotonic solutions rather than in 5 per cent solution in water. They suggest that parenteral sodium lactate therapy as prescribed here would similarly be of value in protecting against renal complications from parenteral administration of other sulfonamide drugs.

Androgens and Somatic Growth in Man.—Kenyon and his collaborators review data on precocious puberty in boys with interstitial cell tumors of the testis and describe the association of somatic growth with the more familiar aspects of androgen action. Testosterone propionate and chorionic gonadotropin induce retention of nitrogen, inorganic phosphorus, sulfate and potassium in amounts so large as to necessitate the assumption of increase in the mass of nongenital tissue. Methyltestosterone has similar properties at least in several respects. Sodium and chloride are also retained for a period with these agents. Calcium retention can be induced in certain subjects with testosterone propionate. Creatinuria may be reduced by testosterone propionate but is increased by methyltestosterone. Basal heat production in the eunuchoid may be increased by testosterone propionate and methyltestosterone. Growth in height and weight of the undergrown underdeveloped boy may be produced by chorionic gonadotropin, testosterone propionate or methyltestosterone. Maturation of bony structure occurs, but closure of the epiphyses is not readily induced and presumably requires prolonged and heavy dosage. The testis is conceived as exerting profound general anabolic effects and thus accelerating the somatic growth of the boy. It is possible that feminine androgens similarly influence the growth of the girl. Certain nongenital sites of new tissue deposit in man under the influence of the androgens seem strongly suggested. These are the skeleton and the skeletal musculature. The kidney and other organs may be affected. The anabolic effects of the testis do not appear to be exerted either through the anterior lobe of the pituitary body or through the adrenal cortex. The mature normal testis is not exerting this anabolic or somatotropic influence to the fullest extent to which the organism can respond. Since age does not seriously limit the metabolic response to the androgens, unknown opposing forces must operate to achieve the nitrogen equilibrium characteristic of maturity.

Archives of Ophthalmology, Chicago

31:279-366 (April) 1944

Acid-Base Tolerance of Cornea. J. S. Friedenwald, W. F. Hughes Jr. and H. Herrmann.—p. 279.
*Meningococcic Conjunctivitis. A. B. Mangiaracine and A. Pollen.—p. 284.
Di-N-Butylcarbaminoylcholine Sulfate: New Cycloplegic and Mydriatic Drug. K. C. Swan and N. G. White.—p. 289.
Healing of Iris in Rabbits Following Experimental Iridectomy. Ruby Kathryn Daniel.—p. 292.
Paralysis of Divergence Due to Cerebellar Tumor. O. Lippmann.—p. 299.
Further Experiences with System of Intracapsular Extraction of Cataract. D. B. Kirby.—p. 302.
Bowen's Disease of Cornea. C. Weskamp.—p. 310.
Diagnostic Value of Monocular Occlusion. K. L. Roper and R. E. Bannon.—p. 316.
Catgut Sutures for Closure of Deep Corneoscleral Wound in Operations for Cataract: Preliminary Report. F. A. Davis.—p. 321.
Two Plastic Operations for Repair of Orbit Following Severe Trauma and Extensive Comminuted Fracture. J. M. Converse.—p. 323.
Practicability of Use of Contact Lenses at Low Atmospheric Pressures. C. E. Jaeckle.—p. 326.
Staphylococcic Thrombophlebitis of Cavernous Sinus: Report of Case, with Recovery with Chemotherapy and Heparin. D. Edelson.—p. 329.
Infection of Lymphoid Tissue of Pharynx and of Conjunctiva. H. Waldapfel.—p. 331.

Meningococcic Conjunctivitis.—Mangiaracine and Pollen describe 10 cases of acute suppurative conjunctivitis of meningococcic origin all of which occurred within a five month period. In none was there a history of exposure or general prodromal symptoms. The ages varied from 14 weeks to 15 years. Frank meningitis developed in 1, and meningococcic septicemia with abortive meningitis in another. Cultures of material from the eyes yielded type I meningococci in 4 other patients and type II meningococci in 2. In the first 2 patients the organism was not typed. Both eyes were involved in 6 patients and one eye only in 4. There was corneal involvement in 5 patients, superficial ulcers developing in 2 and corneal edema alone in 3. In none did a permanent residual ocular change follow therapy. Treatment consisted of local and oral chemotherapy in 5 instances. Four patients received only local chemotherapy and 1 irrigations with zinc sulfate alone. The oral chemotherapy was given only to patients with corneal involvement or systemic or meningeal symptoms. Neither the degree nor the course of the ocular infection seemed to be improved by the addition of oral administration of sulfadiazine, and the patient who received

zinc sulfate alone did as well as the rest. The average length of hospitalization (exclusive of the cases with meningeal involvement) was eight days, the ocular discharge subsiding in three to five days and the eyes becoming white and the process quiescent in seven days. The apparent recent increase in the incidence of cases of suppurative conjunctivitis of meningococcus origin, previously considered of infrequent occurrence, leads one to believe that previous cases may have been missed because of the morphologic resemblance of the organisms to those in the neisserian group. Differential cultures will easily lead to the correct diagnosis, a factor of great importance when one is dealing with an organism of such potential epidemic virulence as the meningococcus.

Archives of Otolaryngology, Chicago

39:287-358 (April) 1944

Surgical Management of Compound Depressed Fracture of Frontal Sinus, Cerebrospinal Rhinorrhea and Pneumocephalus. E. S. Gurdgian and J. E. Webster.—p. 287.
Anatomic Variations of Lateral and Sigmoid Sinuses. J. G. Waltner. —p. 307.
*Ménière's Disease: Histopathologic Observations. J. R. Lindsay.—p. 313.
Infection of Nose and Throat Caused by Pneumococci of Type III. W. J. Knauer.—p. 319.
*Tonsillectomy and Poliomyelitis: One Case of Poliomyelitis Following 8,915 Tonsillectomies. J. R. Page.—p. 323.
New Method for Repair of Small Loss of Alar Rim. A. J. Barsky. —p. 325.
Industrial Noise Hazard. D. A. McCoy.—p. 327.
Evaluation of Submucosal Shrinking Methods for Chronic Nasal Obstructions. M. Tamari and W. Busby.—p. 331.
Muscles and Cartilages of Nose from Standpoint of Typical Rhinoplasty. B. Griesman.—p. 334.
pH of Nasal Mucosa Measured in Situ. W. J. Nungester and A. K. Atkinson.—p. 342.

Histopathologic Observations in Ménière's Disease.—Since the discovery by Hallpike and Cairus of a labyrinthine dropsy in the affected ear of 2 patients with Ménière's disease there have appeared a number of similar microscopic observations. Lindsay reports clinical and microscopic observations in a proved case of Ménière's disease. A man aged 47 fell during an attack of vertigo, suffered a fracture of the skull and died. In 1939 he had been examined at the Mayo Clinic and was considered as having Ménière's disease. The microscopic studies of the cochlea in this case corresponded closely to those in other cases. The hearing loss for low tones in the affected ear must have been associated with the hydrops of the labyrinth. Such a loss for low tones has been recognized as a primary characteristic of Ménière's disease. The deafness of Ménière's disease has been usually described as of nerve type because of the positive Rinne test. The primary low tone involvement and the fluctuations in threshold do not seem compatible with a neural lesion. The clinical features of deafness appear more compatible with some interference in the conduction medium in the inner ear. The histologic picture in this as well as in the 2 ears reported earlier by the author seems to lend support to this explanation of auditory disturbances in that the neural elements appeared well preserved in contrast to the great distortion of the membranous structures. In place of the normal column of perilymph from the oval window to the round window, the column had been broken up or distorted by the dilated saccule and cochlear duct at the expense of the perilymphatic cistern and vestibular scala. Such an architectural rearrangement seems a probable basis for a disturbance in the function of the fluid column. The dilatation of the saccule has been a fairly constant feature. The saccule has herniated into the small end of the horizontal semicircular canal in some, and in others there has been herniation of the utricle. In this case, as in the 2 cases formerly reported by the author, there has been a consistent tendency for herniation to develop from the utricle adjacent to the ampullae of the semicircular canals with distortion of the outer wall of the ampullae. This distortion of the ampullary wall offers a reasonable explanation for the disturbances of vestibular function. Permanent distortion of the ampulla would explain impairment of the vestibular response in late stages, while temporary distortion would result in an attack of vertigo and possibly also a temporary decrease in caloric response.

Tonsillectomy and Poliomyelitis.—Page presents figures on poliomyelitis for the years from 1937 to 1941 inclusive obtained from the Department of Health of the City of New York. An increase in the number of cases every other year was evident. As 1937, 1939 and 1941 were the years in which the disease was most prevalent, the patients who had tonsillectomies performed on them during those years were communicated with by mail; 27,849 cards were sent out by the Manhattan Eye, Ear and Throat Hospital. A total of 8,915 replies were obtained with only 1 instance of poliomyelitis, which occurred in August 1937, approximately a month after tonsillectomy. Six replies for the year 1937 reported illness other than poliomyelitis. Two replies for 1939 reported illnesses other than poliomyelitis. The data in 7 replies that reported illness after tonsillectomy all mentioned some spinal involvement.

Archives of Surgery, Chicago

48:267-354 (April) 1944

Lobectomy of Liver: Report of 3 Cases. K. L. Pickrell & R. C. Clay. —p. 267.
Fractures of Carpal Scaphoid Bone in Industry and in Military Service. M. G. Henry.—p. 278.
Heat and Mustard Gas Burns: Comparison. A. R. Koontz.—p. 284.
Untoward Effects of Various Substances Recommended for Burns or Wounds: Experimental Tests on Rats. R. D. Baker.—p. 300.
Naval Casualties in Base Hospital in South Pacific. G. Crile.—p. 305.
Comparative Value of Some Blood Substitutes Used for Treatment of Experimental Shock. C. C. Scott, H. M. Worth and E. B. Robbins. —p. 315.
Giant Nevus of Thigh Successfully Treated by Complete Excision and Primary Grafting. K. L. Pickreil and R. C. Clay.—p. 319.
Review of Urologic Surgery. A. J. Scholl, F. Hinman, A. von Lichtenberg, A. B. Hepler, R. Gutierrez, G. J. Thompson, E. N. Cook, E. Wildbolz and V. J. O'Conor.—p. 325.

Bulletin New York Academy of Medicine, New York

20:203-252 (April) 1944

Postcholecystectomy Syndrome and Its Treatment. R. Colp.—p. 203.
Parenteral Fluids and Food in Gastrointestinal Disease. R. Elman. —p. 220.
Nutrition in Medicine. F. J. Stare.—p. 237.

20:253-316 (May) 1944

Cancer of Colon. H. Cave.—p. 255.
Pathologic Physiology of Gastric and Duodenal Ulcer. H. Shay.—p. 264.
Primary Atypical Pneumonia in General Hospitals and in Private Practice. N. Plummer and H. K. Ensworth.—p. 292.

Canadian Journal of Public Health, Toronto

35:137-174 (April) 1944

Rehabilitation of Tuberculosis Patient—Manitoba Program. T. A. J. Cunnings.—p. 137.
Present Problems in Industrial Health. W. H. Cruickshank.—p. 144.
Cancer Control in Saskatchewan. R. O. Davison.—p. 150.
Recent Trends in Nutrition. E. W. McHenry.—p. 154.
Survival of Eberthella Typhosa in Cheddar Cheese Manufactured from Infected Raw Milk. A. G. Campbell and J. Gibbard.—p. 158.

Florida Medical Association Journal, Jacksonville

30: 405-456 (April) 1944

*Treatment of Creeping Eruption with Fuadin. J. F. Wilson.—p. 425.
Role of Fluids Administered Orally in Causing Postoperative Distention Following Cesarean Section and Gynecologic Operations: Report of 100 Cases. B. F. Hart.—p. 426.

Fuadin in Creeping Eruption.—Wilson restricts the term creeping eruption to the type caused by Ancylostoma braziliense, the larva of hookworm. The peak of the season for this larva migrans is in August. It is more prevalent along the costal regions of the Gulf of Mexico and the South Atlantic than in other parts of the country. Most treatments hitherto recommended have been unsatisfactory. Freezing with ethyl chloride, one of the most effective methods, involves great expense. Smith's report in THE JOURNAL of Nov. 13, 1943, page 694, on the systemic treatment of the disease with fuadin, induced Wilson to employ it. He administered fuadin in 7 cases. In the first case five injections were given at daily intervals. Since no itching was felt after the first dose he decided to give only one injection in the subsequent cases. In 2 cases a second injection was required. The possibility of antimony poisoning is practically eliminated if 1 or 2 doses will suffice. Fuadin appears to be worthy of trial in the treatment of larva migrans.

Journal of Clin. Endocrinology, Springfield, Ill.

4:47-94 (Feb.) 1944

Dwarfism Associated with Microcephalic Idiocy and Renal Rickets. S. J. Glass.—p. 47.
Excretion of Estrogen After Injection of Estradiol and Estrone into Men with Cirrhosis of Liver. S. J. Glass, H. A. Edmondson and S. N. Soll.—p. 54.
Some Metabolic Effects of Thiouracil, with Particular Consideration of Adrenal Functions. R. H. Williams, G. W. Bissell, B. J. Jandorf and J. B. Peters.—p. 58.
*Treatment of Acne Vulgaris: Preliminary Study on Value of Pregnant Mare Serum. C. H. Birnberg and C. R. Rein.—p. 65.
*Hyperinsulinism as Etiologic Factor in Acute Rheumatic Fever. E. M. Abrahamson.—p. 71.
Role of Endocrines in Regulation of Blood Sugar. S. Soskin.—p. 75.

Pregnant Mare Serum for Acne Vulgaris.—Birnberg and Rein report studies on pregnant mare serum from which they precipitate a hormone which is practically protein free. The material was studied on guinea pigs. The preparation was first given to patients intramuscularly. Since no effects resulted, intravenous injection was tried. The dosage varied from 400 to 800 international units intravenously twice a week. More than 5,000 injections have been given without a single reaction. The authors report results for a study of 17 female patients with acne vulgaris and associated menstrual disturbance who had received the usual treatment, including roentgen and ultraviolet irradiations, various types of vaccine injections, vitamin therapy, strict dietary limitations and various forms of local medication with slight or only temporary clinical improvement. Examination revealed negative follicle stimulating hormone and negative estrogens in 12 of the 17 patients. After treatment with the pregnant mare serum preparation no change occurred in 2 patients and normal values were found in 10 patients. Five patients failed to return for a recheck. Fourteen of the 17 patients were definitely improved by injections of pregnant mare serum. The administration of estrogen alone aggravated the eruption. The authors do not imply that pregnant mare serum is a cure for acne vulgaris. Certain cases respond to different types of endocrine therapy. Acne in a female which is influenced by the menstrual cycle should have a thorough endocrine study to determine the primary difficulty, and the condition should be treated accordingly.

Hyperinsulinism in Acute Rheumatic Fever.—Abrahamson calls attention to the fact that diabetes (hypoinsulinism) and rheumatic fever rarely coexist. He cites evidence that allergic disorders are characterized by hyperinsulinism. Since rheumatic fever is a variety of bacterial allergy, it was postulated that rheumatic subjects should also have hyperinsulinism. Dextrose tolerance tests of 11 patients having rheumatic fever disclosed that such was the case. The patients were placed on frequent feeding with a high fat and low carbohydrate diet. Sweets and other rich carbohydrate foods and caffeine beverages were forbidden. The patients were instructed to follow the diet closely for three months. They were permitted gradually to drop the extra feedings. By the end of six months they were on the usual three meals a day schedule. They continued to avoid caffeine and sweets and they kept the consumption of potatoes and other carbohydrate rich foods to a minimum. After these six months the patients were tested again. The diet had the anticipated effect of eliminating the hyperinsulinism. All of these patients went through two winters without further rheumatic attacks.

Journal of Immunology, Baltimore

48:213-270 (April) 1944

Specific Cutaneous Reaction in Persons Infected with Virus of Herpes Simplex. F. P. O. Nagler.—p. 213.
Coordinate Effects of Electrolyte and Antibody on Infectivity of Bacteriophage. A. D. Hershey, G. M. Kalmanson and J. Bronfenbrenner.—p. 221.
*Rh Antibodies in Maternal Circulation Without Clinical Manifestations of Erythroblastosis in Child. G. C. Dockeray and H. Sachs.—p. 241.
Studies on Virus Immunity: Experiments with Viruses of Rabies and Equine Encephalomyelitis. U. Friedemann, A. Hollander and S. Bornstein.—p. 247.
Studies on Penicillin: I. Production and Antibiotic Activity. Clara M. McKee, Geoffrey Rake and A. E. O. Menzel.—p. 259.

Rh Antibodies in Maternal Circulation Without Erythroblastosis in Child.—Dockeray and Sachs point out that with regard to the homozygous and heterozygous genotype of Rh positive individuals, as suggested by Landsteiner and Wiener in 1941, the probability of erythroblastosis would amount to about 9 per cent. Erythroblastosis probably occurs much less frequently than this figure. It follows that when the mother is Rh negative and the fetus is Rh positive certain conditions must be fulfilled for the disease to develop. The fetal red cells must pass the placental barrier, the mother's body must be able to react with antibody formation and the anti Rh isoantibodies must pass the placental barrier to cause erythroblastosis in the fetus. The authors examined serums of pregnant women before delivery for Rh antibodies. They detected irregular agglutinins in 3 of 61 antepartum cases. A fourth case was reported previously. In their observations mothers whose serum contained great amounts of anti Rh agglutinins did not give birth to infants exhibiting clinically demonstrable erythroblastosis. It follows that Rh antibodies may be found in the mother without erythroblastosis occurring in the child. The baby need not be erythroblastotic even when all conditions seem to be fulfilled, that is an Rh negative mother bearing an Rh positive fetus with a strong formation of Rh antibodies in the mother. Since all 4 women were Rh negative, it is justifiable to draw the same conclusion from the other observations. Isoimmunization of the mother from the fetus in utero is apparently not always sufficient in itself to cause erythroblastosis. Perhaps the isoantibodies may pass the placental barrier only in certain conditions changing in the course of pregnancy. Since the passage of fetal red cells necessary for the antibody formation must be more difficult than that of antibodies, it appears likely that particular conditions or temporary damage in the placental barrier may be responsible for the transmission of antibodies from the mother to the fetus or for their action on the fetal red cells. The authors also observed 3 instances of erythroblastosis in infants whose mothers' blood contained at most only traces of anti Rh agglutinins.

Journal of Neurosurgery, Springfield, Ill.

1:83-102 (March) 1944

Study of Gnosis, Praxis and Language Following Section of Corpus Callosum and Anterior Commissure. A. J. Akelaitis.—p. 94.
*Physiologic Basis of Concussion. A. E. Walker, J. J. Kollros and T. J. Case.—p. 103.
*Results of Surgical Removal of Protruded Lumbar Intervertebral Disks. B. M. Shinners and W. B. Hamby.—p. 117.
Peripheral Nerve Surgery—Diagnostic Considerations. C. C. Coleman.—p. 123.
Peripheral Nerve Surgery—Technical Considerations. R. G. Spurling.—p. 133.
Peripheral Nerve Surgery—Postoperative Rehabilitation. W. M. Craig.—p. 149.
*Treatment of Painful Phantom Limb by Removal of Postcentral Cortex. C. G. de Gutiérrez-Mahoney.—p. 156.

Physiologic Basis of Concussion.—According to Walker and his associates, cerebral concussion is generally agreed to be a traumatically induced derangement of the nervous system characterized by temporary impairment of consciousness, dizziness, mild confusion and headache, and unassociated with gross anatomic changes. Since Duret's experimental study, technical procedures for precise measurement of intracranial changes have been developed and some understanding of neural mechanisms has been acquired, so that now the phenomena of concussion may be placed on a sound physiologic basis. The authors made studies on 151 cats, 15 dogs and 21 monkeys. Analysis of the clinical manifestations in these animals show that they are the result of intense excitation of the central nervous system at the moment of the blow to the head. At the moment of concussion an electrical discharge occurs within the central nervous system. In the vinethene-procaine anesthetized animal the cortical activity is increased in frequency following the initial discharge (after discharge) for ten to twenty seconds and then decreases until there is little spontaneous activity (extinction). Within several minutes the electroencephalogram becomes practically normal again. At the moment of a blow on the skull a sudden increase in pressure at the site of impact occurs with pressure waves being transmitted throughout the intracranial cavity. It is concluded that these mechanical forces produce a breakdown of the polarized cell membranes of many neurons in the central nervous system, thus discharging their axons. This

intense traumatic excitation is followed by the same electroencephalographic, chemical and clinical phenomena which characterize intense stimulation of the nervous system by electrical, chemical or other agents.

Removal of Protruded Intervertebral Disks.—Shinners and Hamby investigated the symptomatic relief obtained by 140 patients who underwent removal of protruded intervertebral disks. The shortest period following operation was six months. One hundred and sixty operations were performed on 140 patients. There were no fatalities. At the first operation 116 patients were found to have protruded disks. Eight patients had recurrences subsequently at the same level. Three patients had second disk protrusions at a new level. Twenty-four patients underwent exploration without discovery of disk protrusions. The first 9 patients were subjected to more or less complete laminectomy. Thereafter hemilaminectomy was employed. The interlaminal approach has been principally employed. Spinal fusion was done at the initial operation only if the back was frankly unstable. Otherwise it was done only when the simpler operation proved ineffective. Fusion was performed on 13 of the 116 patients from whom disk protrusions were removed and on 5 of 24 patients who on exploration proved to be without protrusions. Spinograms were made of 91 patients. The results of these were not only confusing but often misleading. Of the 87 patients who replied to follow-up questionnaires, 49 considered themselves cured, 48 believed they were improved and 2 thought they were worse. A comparison of the results in private and compensation cases showed a striking parallel.

Treatment of Phantom Limb by Removal of Postcentral Cortex.—The patients seen by de Gutiérrez-Mahoney felt pain in every phantom, but few were disabled by it. The unpleasant sensations included undue warmth, itching or simply distress due to overconsciousness of the painless phantom. These discomforts may be intermittent but are usually continuous. Many patients suffer a deep, agonizing torture due to the sensation of the limb being tightly compressed, which may be so severe that the victims are willing to undergo any kind of treatment. Many ultimately become morphine addicts. A man who had caught his right hand in a circular saw, which amputated the terminal phalanx of the middle finger and the terminal and half of the middle phalanx of the ring finger, was conscious of the presence of the amputated fingers. These phantoms were extremely painful, felt raw, itched and ached. The fingers become powerfully flexed and the pain was "killing." On Aug. 15, 1940 he suddenly became unconscious and partially paralyzed on the right side. He recovered considerable function of the limbs, and there was little if any sensory deficit. There was no alteration of the phantom fingers or pain. He had a few convulsions, after each of which the pain in the phantom disappeared for a day but later recurred. At an operation the left postcentral cortex was stimulated and the area corresponding to the middle and ring fingers for the right hand was determined and excised by subpial resection. There was an immediate disappearance of the phantom fingers and the pain. There had been no recurrence two years after the operation.

Journal of Thoracic Surgery, St. Louis

13:67-168 (April) 1944

Roentgen Rays in Treatment of Carcinoma of Bronchus, with Analysis of 69 Cases Treated in State of Wisconsin General Hospital from 1933 to 1943. E. A. Pohle and Evelyn L. Siris.—p. 67.
Diagnosis and Treatment of Bronchiogenic Cysts of Mediastinum and Lung. R. K. Brown and L. L. Robbins.—p. 84.
*Thoracoplasty and Contralateral Pneumothorax in Bilateral Pulmonary Tuberculosis. R. W. Buxton and P. V. O'Rourke.—p. 106.
*Intrathoracic Neurogenic Tumors. E. M. Kent, B. Blades, A. R. Valle and E. A. Graham.—p. 116.
Roentgenographic Demonstration by Diodrast of Pleural Walls in Open Empyema. J. Gordon.—p. 162.

Thoracoplasty and Contralateral Pneumothorax in Bilateral Pulmonary Tuberculosis.—Buxton and O'Rourke show that in a certain group of tuberculous patients bilateral pneumothorax, although highly desirable, is technically impossible. These patients often are either denied collapse therapy or are treated only unilaterally. Thoracoplasty for the otherwise untreated lesion, in conjunction with a contralateral pneumothorax, is usually considered unwise for technical reasons and valueless because of the final results. This study has been undertaken to determine the desirability of thoracoplasty in the presence of a contralateral pneumothorax and to analyze the immediate and late results of this form of combined therapy. The series is composed of 44 unselected consecutive patients having a unilateral pneumothorax, on whom 174 thoracoplasty stages have been performed for the lesions in the lung opposite to the pneumothorax. All patients had positive sputum on smear or concentrate examination at the time thoracoplasty was begun. In general the thoracoplasty was delayed until the lesions beneath the contralateral pneumothorax gave satisfactory evidence of progressive improvement. In 25 out of 30 patients there was regression of the lesions with closure of existing cavities on the side of the pneumothorax. In the other 5 the cavities were smaller and the progress of the disease indicated probable eventual closure. Serial roentgenograms showed the disease to be stationary on the pneumothorax side in 14 cases at the time the thoracoplasty was begun. Fifteen, or 34 per cent, of the 44 patients had some degree of tuberculous laryngitis or bronchitis. Only the larynx of 3 patients was involved and only the bronchi of 12 were involved. In 13 cases the planned thoracoplasty program was not completed because of complications. The early mortality rate (within three months) in this series was 6.8 per cent, and the late mortality rate was 22.7 per cent. The total mortality rate was 29.5 per cent. All living patients have been followed for more than one year since the last stage of their primary thoracoplasty. Among the 31 living patients (17 in sanatoriums and 14 at home) there has been conversion of sputum in 64.5 per cent and closure of the cavity under the thoracoplasty in 83.8 per cent. Twelve of the 14 patients at home are capable of pursuing a gainful occupation. The authors conclude that the performance of thoracoplasty in the presence of a contralateral pneumothorax is desirable and the results justify its more frequent employment in the treatment of bilateral pulmonary tuberculosis.

Intrathoracic Neurogenic Tumors.—Kent and his co-workers present the histories of 18 patients with intrathoracic nerve tumors treated at the Barnes Hospital in St. Louis and report 3 other cases of probably but not proved neurogenic tumors. A collected series of 105 cases from the literature is reviewed. A high percentage of the tumors were malignant. Of the 18 patients treated by the authors 7 had malignant tumors, and of the 105 cases collected from the literature 37 per cent were malignant. There is therefore no justification for the all too common opinion that suspected nerve tumors of the thorax do not require operation unless or until pressure effects have been noted. It would seem wiser to take the position that the presumptive diagnosis of such a tumor constitutes an indication for operation. Since the majority of the tumors are in the posterior mediastinum, a posterior operative approach is used most frequently. If the patient has an hourglass tumor it is preferable to remove both the intraspinal and the intrathoracic parts at the same operation. If such extensive surgery should be contraindicated at one stage, the intraspinal portion should be the point of attack.

Kentucky Medical Journal, Bowling Green

42:93-124 (April) 1944

Bacillary Dysentery. E. L. Turner.—p. 95.
Administrative Control of Syphilis. R. E. Teague.—p. 102.
Gas Gangrene. W. H. Cole.—p. 109.
Forgotten Man. B. W. Smock.—p. 112.
"Compensationitis" After Ocular Injury. C. L. Woodbridge.—p. 113.
Identical Twins with Psychosis. H. E. Rubin.—p. 115.

42:125-152 (May) 1944

Shock. E. A. Stead Jr.—p. 127.
Intestinal Obstruction. W. H. Cole.—p. 130.
Amebiasis, Other Intestinal Protozoal Infections, Helminthous Dysentery. E. L. Turner.—p. 135.
Pneumonia, Malaria, Appendicitis in 1 Case. S. H. Flowers.—p. 143.
Thrombosis. A. J. Schwertman.—p. 144.
Allergy in Infectious Diseases. F. A. Simon.—p. 145.

New Jersey Medical Society Journal, Trenton

41:75-116 (March) 1944

Social Security. W. J. Ellis.—p. 81.
Indication for Conservatism in Surgical Treatment of Rectal Cancer. G. T. Pack and J. S. Gallo.—p. 85.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Heart Journal, London

6:1-52 (Jan.) 1944

Adrenal-Sympathetic Syndrome: Chromaffin Tissue Tumor with Paroxysmal Hypertension. R. Mackeith.—p. 1.
Reciprocal Beating Initiated by Ventricular Premature Systoles. R. Langendorf, L. N. Katz and A. J. Simon.—p. 13.
*Heart Failure in Aged. T. H. Howell.—p. 20.
Case of Myxoma of Left Auricle. R. B. Thompson.—p. 23.
*Circulatory Failure Due to Vitamin B Deficiency. A. Schott.—p. 27.
Cardiac Output in Man by Direct Fick Method: Effects of Posture, Venous Pressure Change, Atropine and Adrenalin. J. McMichael and E. P. Sharpey-Schafer.—p. 33.
The Heart in Myotonia Atrophica. W. Evans.—p. 41.
Synchronous Heart Sound Recording by Application of Second Channel to Cossor-Robertson Cardiograph. G. D. Dawson and A. M. Jones.—p. 48.

Heart Failure in Aged.—According to Howell, heart failure in old age differs in many ways from that in earlier life. Before middle age the pathologic state of the heart itself is all important; after this the condition of the peripheral vessels also must be taken into account. In the young, recovery is more rapid and lasting: in the old, relapses are the rule. Howell analyzes cardiac failure in 75 old or elderly persons. The ages of the patients ranged from 62 to 92. No congenital or rheumatic heart disease was found, and only 1 patient had syphilitic heart disease. The most common causes of cardiac failure were high blood pressure, disease of the coronary artery and myocardial toxemia. Other varieties peculiar to senility seem to result from the inability of the left ventricle to propel the blood against the increased resistance of the thickened and narrowed peripheral arteries. They appear as peripheral ischemia, which may be intermittent or constant. It has been referred to as relative hypotension. The dominant symptoms are usually cerebral in origin. One symptom complex of this type has been described by the author under the name of progressive cerebral ischemia. Here an arteriosclerotic patient with high blood pressure shows first mental confusion, then restlessness or violence, and finally becomes comatose while his systolic figure falls from its previous high grade to the ultimate level (around 100 mm.), at which death ensues in such cases. This syndrome may follow right or left heart failure or may result from myocardial toxemia after an infection, such as pneumonia. Another form is designated as "forward" failure. This is the gradual but steadily increasing feebleness, accompanied by a slowly falling blood pressure. There is no angina pectoris, no congestive failure, no paroxysmal dyspnea, nor are cerebral symptoms prominent. The author stresses the frequency of multiple etiology in heart failure of the aged. He thinks that arterial thickening probably played a part in most of the cases, usually in association with hypertension or disease of the coronary artery. Sometimes myocardial toxemia was superadded, and this made a fatal prognosis almost inevitable.

Circulatory Failure Due to Vitamin B Deficiency.—Schott describes 3 cases of circulatory disturbances due to vitamin B_1 deficiency with special reference to some unusual clinical and electrocardiographic features. Two of the 3 patients took an excessive amount of alcohol; in the third case the condition was caused by deficient diet only. All responded to treatment with vitamin B_1.

British Journal of Radiology, London

17:101-132 (April) 1944

Treatment of Carcinoma of Lung: Symposium. J. L. Livingstone, R. C. Brock, F. Roberts, J. L. Dobbie and W. L. Harnett.—p. 109.
New Light on Origin of Craniolacunia. J. B. Hartley and C. W. F. Burnett.—p. 110.
Case for Diagnosis. J. A. Brocklebank.—p. 114.
Rectangular Teleradium Fields. M. Lederman, J. R. Clarkson and W. B. Maynecord.—p. 115.
Postoperative Pneumoperitoneum. J. E. Bannen.—p. 119.
Instantaneous Stereography. G. L. Rogers.—p. 122.
Production of Isodose Curves and Calculation of Energy Absorption from Standard Depth Dose Data. W. J. Meredith and G. J. Neary.—p. 126.

British Medical Journal, London

1:447-482 (April 1) 1944

Etiology and Treatment of Convulsions During Anesthesia: Abstract of a Paper. W. N. Kemp.—p. 447.
Hysterical Sequelae of Injuries. P. D. Scott and P. Mallinson.—p. 450.
Chronic Pulmonary Catarrh in Childhood. A. B. Taylor.—p. 453.
Survey of Vitamin C Level in Wartime in Pregnant Women. A. A. Craig, F. J. W. Lewis and Dorothy Woodman.—p. 455.
Sudden Death in Labor. R. G. Cooke.—p. 457.

Lancet, London

1:425-456 (April 1) 1944

Surgery in Forward Area. W. A. Law.—p. 425.
*Prostigmine and Ephedrine in Myasthenia Gravis. A. Wilson and H. B. Stoner.—p. 429.
*Ocular Signs of Riboflavin Deficiency. W. J. W. Ferguson.—p. 431.
Tropical Eosinophilia. B. G. Parsons-Smith.—p. 433.
Implantation of Testosterone in Cast Pellets. P. M. F. Bishop and S. J. Folley.—p. 434.

Neostigmine and Ephedrine in Myasthenia Gravis.—Wilson and Stoner studied the clinical response to neostigmine, to ephedrine hydrochloride and to neostigmine with ephedrine in myasthenia gravis. The effect of this therapy on the cholinesterase activity of serum was determined in 10 patients with myasthenia gravis. The results obtained provide little if any evidence of relationship between the inhibition of serum cholinesterase and the clinical effect of neostigmine. Recent work on the nature of myasthenia gravis indicates that the essential lesion is a partial block in neuromuscular transmission. Neostigmine has been shown to have two types of action. It inhibits cholinesterase activity and is also capable of reversing the block in neuromuscular transmission produced by curare and some quaternary ammonium salts. Such a dual action might explain the failure to correlate the clinical effects with the inhibition of serum cholinesterase activity, for the anticurariform action of neostigmine is possibly independent of the inhibition of cholinesterase activity. The action of neostigmine with ephedrine is much greater than that of neostigmine alone. The principal effect of adding ephedrine was relief of diplopia. Where diplopia was not relieved by neostigmine alone it was alleviated during the combined therapy. The effect on asthenia was definitely superior to that of neostigmine alone; the patients volunteered this information without being questioned. In some of the cases ergographic records provided confirmation. As far as duration of the effect was concerned, the increase was between three and four hours. One of the patients, who required 2.5 mg. of neostigmine every hour, was maintained on combined therapy by injection every four hours. Administration of ephedrine by itself produced clinical improvement in only 1 case. In none did it alter the cholinesterase activity of the serum.

Ocular Signs of Riboflavin Deficiency.—Sydenstricker and his associates described in 1940 ocular signs and symptoms which responded to riboflavin therapy. The symptoms were photophobia, sensations of burning or roughness of the eyelids, visual fatigue and sometimes impairment of visual acuity in the absence of refractive errors or pathologic changes in the media. The commonest sign was "circumcorneal injection," often with invasion of the cornea by capillaries from the limbic plexus. Ferguson examined groups of people with the slit lamp and discussed and examined cases with Sydenstricker. He feels that misinterpretation has arisen largely through lack of experience in the use of the slit lamp, through imperfect understanding of the normal variations of the appearance and vascularity of the limbus and through inclusion of corneal vascularization due to other causes than riboflavin deficiency. The mode of anastomosis of the anterior and posterior conjunctival vessels around a normal limbus varies. There are four typical varieties, which demonstrate that formation of capillary loops at the corneoscleral junction and on the limbus itself can be regarded as normal. The vascularization attributed to lack of riboflavin is an extension of the normal limbic vascular system to the true cornea. From the apexes of the existing limbic loops appear fine vessels running more or less toward the true cornea; these "streamers" in turn anastomose with one another to form further loops, from which further streamers and, in turn, loops may be formed. The true cornea may thus become further and further vascularized. These vessels run superficially, immediately under the epithelium, and are of such small caliber that they are

mostly invisible even with an ordinary binocular loupe. With the corneal microscope and slit lamp they show best when observed by light reflected from the iris, and they may readily be missed by direct corneal illumination. Abnormal corneal vascularization with very mild symptoms was found in 7.8 per cent of 422 persons. In 13 cases in which the effect of riboflavin treatment was studied over an adequate period it resulted in cessation of the abnormal corneal circulation. No claim is made that riboflavin deficiency is the only cause of the corneal condition described.

Archivos de Pediatría del Uruguay, Montevideo

15:1-64 (Jan.) 1944. **Partial Index**

*Primary Pulmonary Tuberculosis in Infant: Phrenicectomy. P. Cantonnet, H. Cantonnet and J. A. Radice.—p. 23.
Diagnostic Value of Mester Reaction in Rheumatic Fever in Children: Modified Technic. J. Giampietro and V. H. Vacarezza.—p. 27.

Pulmonary Tuberculosis in Infant.—The case reported by Cantonnet and his collaborators of pulmonary tuberculosis with cavitation in an infant 6 months old controlled by phrenicectomy is the second in the literature. The infant's parents were normal. She had not BCG vaccination, was artificially fed and was in close contact with a tuberculous neighbor. At the age of 4 months she was hospitalized for an acute digestive disorder. The clinical symptoms and physical examination revealed pulmonary tuberculosis. The tuberculin test was positive. Roentgen examination of the thorax showed lymph node and lung tuberculosis. A pulmonary cavity was demonstrated in a roentgenogram at 6 months. Tubercle bacilli were found in the gastric lavage. Phrenicectomy was well tolerated. On a proper dietetic and hygienic regimen the patient gained weight and improved. Repeated examination for bacilli and inoculations of guinea pigs gave negative results. The roentgenograms of the chest showed closure of the pulmonary cavity and limitation of the tuberculous process.

Prensa Médica Argentina, Buenos Aires

30:2481-2522 (Dec. 29) 1943. **Partial Index**

*Cirsoid Aneurysm (Racemous Angioma) of Wrist and Palm. V. J. Bertola.—p. 2481.
Medical Extrapleural Serothorax and Pneumothorax: Technic. P. Rubinstein.—p. 2489.

Cirsoid Aneurysm of Wrist and Hand.—Bertola's patient, a girl aged 12 years, presented a tumor mass on the anterior aspect of the wrist and the palm of the hand. This was noted when she was an infant. The tumor became blue and painful as the patient grew. The motility, sensibility and function of the wrist, hand and fingers were normal. There was no pulsation nor aneurysmal bruit. The swelling was irregular and soft on palpation. The operation consisted in ligation of the artery and the vein and of total removal of the tumor. Abnormal communications between venules and arterioles were observed in several areas of the tumor. The clinical diagnosis of cirsoid aneurysm was verified by the microscopic study.

Revista Clínica Española, Madrid

10:297-360 (Sept. 15) 1943. **Partial Index**

Studies on Malnutrition: Production of Edema with Low Protein Diets. C. J. Diaz, F. Vivanco and R. Mora.—p. 302.
*Basal Metabolism and Specific Dynamic Action in Nutritional Edema. M. Carmena and E. Gómez Marcano.—p. 305.
Atypical Generalized Amiloidosis. Miranda Rodrigues and Pulido Valente.—p. 310.

Nutritional Edema.—Carmena and Gomez Marcano studied alterations of basal metabolism and of the specific dynamic action of proteins in 20 cases of nutritional edema. The basal metabolism was lower than normal, decreasing as low as 40 per cent in some cases. There was no correlation between the degree of lowering of the basal metabolism or of the plasma protein level and the severity of edema or of other manifestations of hyponutrition such as diarrhea, bradycardia, arterial hypotension and anemia. The basal rate persisted low for several months after the disappearance of symptoms, but in a number of cases in which it was determined two years after the clinical recovery this value was within the normal range. The decrease in basal metabolism is considered to be a defensive reaction of the organism when subjected to a low caloric and protein intake and to be accomplished through the reduction of the thyroid activity. The specific dynamic action of proteins measured in 3 cases was found to be low in 1 and low normal in 2. After recovery this value rose to normal or high normal in all cases.

Acta Radiologica, Stockholm

24:343-430 (Oct. 31) 1943

*Roentgen Diagnosis and Ray Treatment of Gastric Sarcomas, Particularly of Lymphosarcomas and Reticulum Cell Sarcomas. G. Forssman.—p. 343.
Calcified Thrombosis in Portal System Diagnosed by Roentgen Examination. G. Moberg.—p. 374.
Roentgenology of Stomach. Y. Seuderling.—p. 384.
Arteriography in Thrombosis of Carotis Interna. S. Erikson.—p. 392.
Case of Plasma Cell Mastitis. K. Lübschitz.—p. 403.
Fornix Backflow in Excretion Urography: Its Significance in Differential Diagnosis of Tuberculosis of Kidney. A. Lindbom.—p. 411.
*Histologic Picture of Breast Cancer After Preoperative Roentgen Irradiation: Study of 50 Cases. J. Hoffmeyer.—p. 419.

Gastric Sarcoma.—Forssman states that the incidence of gastric sarcoma is given variably as between 0.3 and 8 per cent of gastric malignant neoplasms. It may occur at any age but is most frequent between the ages of 40 and 60. The author reports clinical histories of 9 cases of gastric sarcoma that were treated at the "Radiumhemmet" in Stockholm. In all of these cases operation had been performed because a gastric tumor was diagnosed and carcinoma was suspected. Gross or microscopic examination established the sarcomatous nature of the lesion. In 6 cases a gastric resection was done, whereas in the 3 others only an exploratory excision was made because the neoplasm had advanced to the inoperable stage. The gastric resection was followed by postoperative roentgen treatment with daily doses of 250, 300 or 400 roentgens with a 0.5 mm. of copper or tin filter, 50 to 60 cm. focal distance and a total cutaneous dose of 2,500 to 3,000 roentgens during four to six weeks on each of two anterior and two posterior fields. Supplementary series were given two to three months later in some cases. In a case of inoperable reticular cell sarcoma a total dose of 5,250 roentgens in two series led rapidly to freedom from symptoms and complete restoration of working capacity. Many cases of sarcoma are often wrongly diagnosed as inoperable cancer on the basis of exploratory laparotomy and thus are not benefited by the radiotherapeutic possibilities. Biopsy should always be done in cases of inoperable tumors. The difference in localization between these and other gastric tumors is of importance in the roentgenologic differential diagnosis. The growth of the tumor in the submucosa and the fact that the mucosa long remains intact give rise to the typical bulging outline of the mucosa and to the early disturbances in peristalsis due to infiltration of the muscularis. The sarcoma frequently has a smooth surface, but occasionally there is a central crater.

Histologic Picture of Breast Cancer After Preoperative Irradiation.—Roentgen therapy of cancer has passed through several stages. The earliest massive single dose was abandoned in favor of fractionated postoperative irradiation, but this in turn has to some extent been superseded by the preoperative fractionated method. Hoffmeyer describes the microscopic appearance of breast cancer in 50 patients who had been treated preoperatively with fractionated doses of from 1,000 to 4,800 roentgens and subsequently were operated on. The patients were observed in Copenhagen hospitals between 1935 and 1940. Palpation revealed that in 40 cases the tumor had diminished in size; in 2 cases it had disappeared entirely. Microscopy revealed that the irradiation had resulted in a diminution of the cancer cell area more or less corresponding to the macroscopically observed recession of the tumor, but in no case was there complete disappearance of the cancer cells. In many cases the latter showed distinct degenerative changes, in 3 cases to such an extent that roentgen sterilization was likely. In most of the cases cancer cells of the pleomorphous type described by Halley and Melnick were found. It seemed as if a total radiation dose of 4,000 roentgens was slightly more effective than a dose of 2,000 roentgens. An observation made by the author himself, coupled with evidence from the literature, causes him to warn against too long postponement of the surgical operation, owing to the risk of fresh proliferation of the cancer cells.

Book Notices

Psychiatry in War. By Emilio Mira, M.D. Cloth. Price, $2.75. Pp. 206, with 6 illustrations. New York: W. W. Norton & Company, Inc., 1943.

This book is well written, brief and practical.

Dr. Mira has collected and analyzed his material carefully and has tested and recast his clinical and academic psychiatry in the light of actual experience of war both at the home front and in some of the bitterest fighting in any war. Thus tested, his formulations are not mere theory but expressions of psychiatrically sound, proved, clinical facts in the Spanish war.

His discussion of fear, anger, morale, management and direction of aggression are all clearly written. His points on recovery and readjustment should be inculcated in all militarized individuals: "Once a man has been enrolled and trained as a soldier, all efforts should be made to keep him in the army in the event that he becomes ill or injured. In other words, even if there are sufficient new recruits, it is always preferable to restore a veteran rather than to replace him by a novice." He discusses civilian morale factors and correctly brings out that civil and military personnel must not only know whom they are fighting but what they are fighting for and must be in the frame of mind to make war, not merely to support it.

All available manpower was employed in the Spanish war. The epileptic were retained and used where they could function adequately. The neurotic were not discharged unless they were so ill as to need commitment to an institution. The greatest of attention was paid to classification for men, assigning and reassigning them till in the optimal job for them and the army.

Some methods of therapy seemed a bit archaic, particularly the counterirritant therapeutic procedures in toxic states and the painful stimulation of the neurotic. However, the conditions under which he worked and the urgency to get men quickly rehabilitated may justify his use of these procedures, though unacceptable to us. The book is written simply and brings into sharp focus the need for proper guiding of attitude in morale of men and officers. It is recommended to all medical officers as a concise presentation of psychiatry in war.

Sheltered Care and Home Services for Public Assistance Recipients, with a Note on Methods of Conducting Studies of Public Assistance Administration. Federal Security Agency, Social Security Board, Public Assistance Report No. 5. Paper. Price, 25 cents. Pp. 149. Washington, D. C.: Supt. of Doc., Government Printing Office, 1944.

This study was confined to public assistance agencies in six urban localities in five states: Orleans Parish, La.; Baltimore, Md.; Cook County, Ill.; Jackson County, Mo., and Boston and Worcester, Mass. For the areas covered it is very thorough. It contains valuable information for welfare workers.

The study grew out of the concern of the bureau about the problems of state and local agencies in assisting aged and blind persons to obtain appropriate living arrangements. It was in line with the suggestion of the President's Committee on Economic Security that a federal agency undertake a survey of institutions for the care of the aged "with a view to recommending a constructive program for the improvement of institutional maintenance of the aged."

The report is divided into four principal phases. Under I, on private sheltered care, it is stated that the proportion of the aged in the general population is increasing and the incidence of chronic illness among the aged is high; also that many more recipients are living in sheltered arrangements than are known. The right of the recipient to use his money payment in bargaining for goods and services should be recognized and protected. The public assistance agency should stimulate community planning to establish standards of care and should participate in efforts to maintain these standards. In II, on sheltered care and public institutions, some significant findings are set down. "The time may be at hand when the public home, like other public institutions, should be regarded as an essential and permanent public service. . . . The scope of the study does not permit the forthright conclusion that the federal government should take steps to participate either in a grant-in-aid program to public institutions or in matching of assistance payments to inmates of public institutions. . . . Within the present legal framework of federal, state and local public assistance agencies, current interpretations of the use of public institutions by recipients of old age assistance and aid to the blind can be liberalized so that any type of public institution, including the public home, can be considered as a resource for temporary shelter and care of recipients." Services in recipients' homes and guardianship of adult recipients are dealt with in III and IV. Guardianship is important because assistance may be denied applicants who are thought to be unable to manage their money payments without such supervision. Provision for defraying the cost of guardianship requires further study.

The appendix includes a note on methods of conducting studies of public assistance administration, twelve pages of tables of doubtful value and seven pages of selected reading references.

Atlas of the Mouth and Adjacent Parts in Health and Disease. Prepared by Maury Massler, D.D.S., M.S., Director of the Child Research Clinic, Assistant Professor of Histology and Lecturer in Stomatology, College of Medicine, and Isaac Schour, D.D.S., Ph.D., D.Sc., Professor of Histology and Head of the Department of Histology, University of Illinois College of Dentistry. Cloth. Price, $2.50. No pagination, with 180 illustrations by Carl T. Linden. Chicago: Bureau of Public Relations, Council on Dental Health, American Dental Association, [n. d.].

This book, with its fine plates and concise text, is the answer to a very real need in medical literature. Too little is known by the physician of the tooth and mouth in relation to health and disease, and too often the knowledge of the dentist is restricted to the tooth itself. The "Atlas of the Mouth" could be called the missing link in dentomedical relations. The illustrations—some of them in color—are partly original and partly modifications of published material. The text gives full and clear information by a clever use of large and small type. The selection of the material presented is the result of long experience in teaching dental and medical students. Anatomy, embryology, histology and pathology are combined to transmit useful knowledge applicable to the practice of dentist as well as of physician.

The first part of the book deals with the tooth. Its structure and development, including the chronology of tooth formation, are the basis for the discussion and illustration of caries, erosion, fluorosis, enamel hypoplasia and the changes in congenital syphilis. The lesions of the oral mucosa follow, including periodontal diseases and changes of the tongue. In the plates on tongue anatomy and pathology, diagrammatic pictures of the microscopic changes are included as insects to most of the microscopic illustrations, adding much to the understanding of any lesion. The anatomy of the oral glands is illustrated by plates of the tonsils, paranasal sinuses, arteries, veins and nerves of the head, mandibular articulation, muscles of mastication and their applied anatomy with regard to fractures of the mandible, ailments of the throat and many other disturbances.

To predict great success for this book and to recommend it to every physician and dentist is the pleasant duty of the reviewer.

Industrial Ophthalmology. By Hedwig S. Kuhn, M.D. Cloth. Price, $6.50. Pp. 294, with 114 illustrations. St. Louis: C. V. Mosby Company, 1944.

In the introduction the author makes the statement that "industrial ophthalmology as a special field has not been previously dealt with as a comprehensive treatise," and "many monographs apposite to this field have been published." Both of these statements bear scrutiny. Throughout the long and stilted introduction there are many statements made, based on the author's limited field of industry—without reference to the work of others—which show a peculiarly mixed medical and psychologic approach to the problem of industrial ophthalmology. Industrial medicine has come into its own only in the past ten years, stimulated more recently by the war with the enormous increase in defense plants. Previous to the augmentation of the so-called heavy industries, with which the author is entirely concerned, there existed in this country many and various lighter industries, which also have been increased. Many of the latter have had industrial eye programs for years which are much simpler and more workable than that outlined [sic] by the author. The excellent work accomplished by such industries as

the Pullman Company, Sears, Roebuck and Company and the General Motors Company are given scant attention. The subject of illumination in industry, as it concerns the eyes, is given approximately two pages, while the literature on this subject fills volumes. Chapter IV, on industrial eye injuries caused by solid bodies, written by Dr. Albert C. Snell, which contains a treatise concerning sulfonamide drugs in ocular infections, is excellent. There are many illustrations showing the various jobs and machinery used in the heavy industries. The average industrial ophthalmologist and certainly the industrial physician will find little of use, except for the chapter by Dr. Snell, in this very unpractical monograph.

The History of Miners' Diseases: A Medical and Social Interpretation. By George Rosen, M.D. With an introduction by Henry E. Sigerist, M.D. Cloth. Price, $8.50. Pp. 490, with 19 illustrations. New York: Schuman's, 1943.

The publication of a history of the development of industrial medicine in such an essential industry as mining is appropriate at this time, when the practice of this branch of medicine has become such a vital part of national defense measures.

By correlating the development of miners' diseases through the ages with the advances in the basic medical sciences and with the varying social and economic conditions that have contributed to the rise of occupational diseases in the industry, Dr. Rosen has provided an essential and interesting background for the medical discussion.

Although, according to the author, ancient medical writers do not mention the health hazards connected with the occupation of mining, glimpses given by other writers of the social and economic conditions under which the miners lived and worked indicate that these hazards were appalling. These conditions, combined with the physical deprivations and tortures to which the ancient miners were subjected, must have resulted in the rapid development of disease and premature death. In fact, mining conditions were still so bad at the time of Ramazzini (about the beginning of the eighteenth century) that he wrote "Whatever metal they mine they invite dreadful diseases which too often mock at every remedy, even supposing that some suitable remedy is duly prescribed; though it would seem to be a question whether it can be considered a pious duty to administer medical aid to men of that class and thus prolong their lives to the bitter end." The fact that mining in antiquity was done almost exclusively by slaves may account for the almost complete disregard of the miner and his diseases by ancient medical authors. Only the Corpus Hippocraticum and Galen refer to mine workers. All other references to the diseases of miners are found in the nonmedical writers of the Roman period.

It is significant that the early medical writers who discussed miners' diseases—Agricola, Paracelsus, Pansa, Stockhausen and others—had actual mining experience or had observed personally the miners among whom they lived and practiced medicine.

The discussion of the evolution of mining methods and miners' organizations from prehistoric times to the end of the nineteenth century should appeal especially to those connected with the mining industry. The general reader who likes biography and history and is interested in the progress of civilization will find the book instructive and stimulating. For those concerned with the prevention of occupational diseases—doctors, engineers and chemists—it will provide a historical background and much useful information for their specialized activities.

Office Endocrinology. By Robert B. Greenblatt, B.A., M.D., C.M., Professor of Experimental Medicine, University of Georgia, School of Medicine, Augusta. With a foreword by G. Lombard Kelly, M.D., Dean, University of Georgia School of Medicine. Second edition. Cloth. Price, $4. Pp. 243, with illustrations. Springfield, Ill., & Baltimore: Charles C Thomas, 1944.

This book is not intended as a textbook but represents a series of lectures presented to postgraduate classes in office endocrinology. The material is offered in abbreviated form and contains a minimum of theoretical and experimental data. If used with the understanding that textbooks should be used for reference, the manual will be well received and found useful by many in general practice. Each chapter offers a bibliography that will do much, if used, to offset the brevity of the book. The index is complete.

The Problem of Changing Food Habits. Report of the Committee on Food Habits 1941-1943. Carl E. Guthe, Chairman. Margaret Mead, Executive Secretary. Bulletin of the National Research Council, Number 108, October 1943. Paper. Pp. 177, with 3 illustrations. Washington, D. C.: The National Research Council, National Academy of Sciences, [n. d.].

This booklet outlines the problems confronting this country in the matter of making the most of our food supplies in the face of impending war. As part of the attack on these tremendous problems, the Committee on Food Habits of the National Research Council was organized to work with governmental agencies to determine wherein lay the weaknesses of the national dietary and how they might be corrected. Cultural as well as scientific problems were involved. Studies were made first of all to determine the food pattern of population groups with different racial backgrounds. Then the types of meals served to family groups and individuals were considered. It was demonstrated that a dietary change could be effected more readily when a group decided to do so rather than when it was asked to change. More desirable results are usually attained by contact with preexisting organizations than through new alinements. In general it was found that changes in food habits can be brought about in a relatively short time. The eating habits of such groups as shift workers, governmental office workers and racial groups were determined. Attitudes of the people of this country toward food rationing were sounded out with a series of carefully chosen questions, but essentially none of the information gathered in this study is found in the report. The group comprising the committee represents widely varied interests and therefore brings many points of view to the discussion of the problems. The results of the broad scope of these field studies and the numerous planned discussions should prove of real value in devising plans for the most effective utilization of this country's food supplies.

Die epidemische Kinderlähmung (Poliomyelitis). Von Prof. Dr. med. E. Glanzmann, Professor für Kinderheilkunde an der Universität Bern. Akademischer Vortrag gehalten am 26. Februar 1943. Paper. Price, 6.80 Swiss francs. Pp. 80, with 22 illustrations. Bern: Medizinischer Verlag Hans Huber, 1943.

This is an academic lecture at the University of Bern, Feb. 26, 1943, and now somewhat enlarged. The epidemiology, the etiology and genesis, the clinical features, the prevention and the treatment of infantile paralysis are discussed interestingly in the light of observations and experimental investigations. Particularly interesting are the sections dealing with the evolution of infantile paralysis from sporadic cases into widely distributed epidemics and with the origin and spread of epidemic outbreaks. The epidemics in Switzerland are shown on colored maps. The lecture presents well the present knowledge and understanding of infantile paralysis.

A Textbook of Materia Medica, Pharmacology and Therapeutics. By Harold N. Wright, M.S., Ph.D., Associate Professor of Pharmacology, University of Minnesota, Minneapolis, and Mildred Montag, R.N., M.A., Director, Adelphi College School of Nursing, Garden City, N. Y. Third edition. Cloth. Price, $3. Pp. 706, with 93 illustrations. Philadelphia & London: W. B. Saunders Company, 1944.

This book is intended for nurses but is better than many others offered for this purpose. The subject matter is presented in interesting style and is sufficiently complete to provide almost all that is essential for nurses studying the use of drugs. In fact, it is also a practical reference source for graduate nurses. The drugs are grouped according to their effects on the body tissues. Each chapter contains at the end a list of questions for practical exercises. The index is complete, as is the glossary of definitions.

Vascular Responses in the Extremities of Man in Health and Disease. By David I. Abramson, M.D., F.A.C.P. Cloth. Price, $5. Pp. 412, with 59 illustrations. Chicago: University of Chicago Press, 1944.

The book is an excellent review of the subject, with particular reference to the underlying physiologic disturbances and the technic of arriving at a diagnosis. The work is written entirely from the standpoint of a physician without apparently very much personal experience from the evaluation of surgical procedures. A valuable part of the monograph is the extensive bibliography which follows each chapter. The book is generally well set up and is recommended to all students of vascular diseases.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

NAIL POLISH DERMATITIS AND SENSITIZATION TO SULFONAMIDES—HAIR LACQUER DERMATITIS

To the Editor:—What is the present status of dermatitis from nail polish and from hair lacquer? M.D., Illinois.

ANSWER.—Numerous examples of nail polish dermatitis are still seen. In a paper by Keil and Van Dyck (*Arch. Dermat. & Syph.*, to be published) there is recorded hypersensitiveness to a particular resin, namely toluene sulfonamide formaldehyde resin, in 25 cases of nail polish dermatitis. This is the chief cause of nail polish dermatitis as seen today. There are, however, exceptional cases in which this substance can be ruled out definitely as the cause. Toluene sulfonamide formaldehyde resin is used in many other types of lacquer. What is especially interesting is that 7 out of 16 persons tested with toluene sulfonamide (probably a mixture of the ortho and para varieties) were hypersensitive to that substance. The concentration used in testing by the patch technic was only 3 per cent in acetone. This substance is similar to sulfanilamide and differs only in the presence of a methyl group instead of the amino group in the para position. In a letter published in THE JOURNAL, Nov. 27, 1943, page 857, Keil suggested that this similarity might lead to a group reaction to sulfanilamide. In the paper to appear in the *Archives of Dermatology* it is recorded that 1 out of 4 cases showed this group hypersensitiveness, and this case is especially interesting in that sulfanilamide had never been used before, either internally or externally. There is suggestive evidence that sensitization of this type carries with it the possibility of being group sensitized to the sulfonamides, but how frequently this occurs remains to be determined. Examples of this type of dermatitis are still being seen with considerable frequency.

The problem of hair lacquer dermatitis seems to be separate and distinct from that of nail polish. Cases of such dermatitis are, however, still too frequent.

EXCESSIVE MENSTRUAL FLOW PROBABLY FROM HEMORRHAGIC DISORDER

To the Editor:—A woman aged 32 complains of intermittent fever ranging as high as 102 F. oral at irregular intervals; excessive bleeding from a dental extraction, cuts, and so on since childhood; profuse menstruation, often requiring three to four dozen pads with prolonged periods, usually two to three weeks apart; easy bruising; cyanosis of the lips almost constantly—cyanosis involving the upper extremities at times. She has 2 children. Physical examination did not reveal significant factors except that she was pale and underweight and that the lips were cyanotic. There was no evidence of fibroids of the uterus or of cancer. Laboratory examination revealed a hemoglobin of 12 Gm., and this was confirmed by repeated examinations. The white blood cell count was 10,900 with a normal differential count. There were no abnormalities in the red cells. Bleeding time was 4.5 minutes and clotting time 9 minutes. There was poor clot retraction. The sedimentation rate was 1.2 mm. per minute. Hematocrit was 35 per cent. Plasma ascorbic acid was 0.4 mg. per hundred cubic centimeters. The basal metabolic rate was 1 plus. The Kahn reaction was negative. Agglutination tests for typhoid, paratyphoid and undulant fever were all negative. X-ray examination of the chest showed calcified Ghon tubercle at the right base and right hilar calcified adenopathy. There was no evidence of active pulmonary disease. The previous history indicates that the patient has passed many urinary calculi. X-ray examination of the kidneys (intravenous pyelogram) showed no abnormalities. The patient had an abdominal operation four years ago, at which time a uterine suspension was done. The tubes were kinked by adhesions, but other abnormalities were not noted. She has had attacks of sinusitis as well as middle ear infection. In an effort to check the severe menorrhagia she has had vitamin K, ascorbic acid, calcium and bile salts as well as roentgen treatment of the ovaries. What further investigations would be helpful? What therapeutic measures could be used to regulate the bleeding and clotting time. Is one justified in doing a hysterectomy in order to stop the bleeding or would severe hemorrhage occur elsewhere? G. W. Brown, M.D., Buchanan, Mich.

ANSWER.—From the history it appears that the patient has a hemorrhagic disorder which is responsible for the excessive menstrual flow. The bleeding time is slightly prolonged, whereas the coagulation time is within normal limits (assuming that it was performed on venous blood by the Lee and White method). A platelet count should be made, as a reduction in platelets is frequently associated with a poor clot retraction. To complete the study of the hemorrhagic condition, determinations of the prothrombin and fibrinogen in the blood should be made and the capillary resistance measured by a Rumpel-Leede test.

In ruling out undulant fever, the intradermal reaction would be of more help than the agglutination tests. One wonders whether the fever, cyanosis and hemorrhagic tendency are in some way related. A drug might produce both cyanosis and purpura.

It is possible that the patient has a hereditary hemorrhagic diathesis known as pseudohemophilia or thrombasthenia. If so, the only therapeutic measure of any value is blood transfusion, the effect of which is temporary. The production of an artificial menopause by further irradiation of the ovaries would seem to be the most conservative method of approach. Injections of testosterone have also been used to stop menstruation. Hysterectomy should be performed only as a last resort.

IRRITATION OF EYES FROM LOCAL INSTILLATIONS

To the Editor:—Can you tell me whether there is danger of chemical irritation to the eye in successive changes of treatment of acute catarrhal conjunctivitis by different clinic doctors on successive days with such instillations as mild protein silver, sulfathiazole ophthalmic ointment 5 per cent, yellow mercuric oxide, mercury bichloride ointment 1: 3,000, metaphen, mercurochrome 1 per cent, hexylresorcinol, acriflavine solution 1: 2,500, zinc sulfate 0.25 per cent solution and copper sulfate 1: 1,000 ointment? Actually I have seen only changes from mild protein silver to sulfathiazole with yellow mercuric oxide to the lids, but with all drugs available is there not needed a special warning of danger from special chemical combinations? M.D., New York.

ANSWER.—Presumably the writer of the query has in mind particularly (*a*) chemical irritation due to drug incompatibility or (*b*) changes in the tissues following the use of one drug which make that tissue particularly sensitive to another drug.

The chemical treatment of inflamed tissue is used (1) to reduce the viability of the infecting organisms (bacteriologic study should always be made so that specific treatment can be applied whenever possible, e. g. Klebs-Loeffler bacilli, gonococci, Morax-Axenfeld bacilli, (2) to increase the general immune and antibody content within and around the living cells or (3) to restore the tissues to normal at the earliest possible date.

How do chemicals act? First of all there is the specific action, which evidently is not in question. The various silver solutions are typical of those with nonspecific action. 1. Silver precipitates the salt of the tears and mucus; and the constant movement of the lids on the eyeball rolls this precipitate into stringy and fibrinous threads and moves them toward the inner canthus. 2. Depending on the strength of solution and the vigor of application, silver penetrates the superficial dead cells and may even kill some of the living cells. These then are thrown off and there follows active proliferation of the deeper lying cells. This activity calls for more nourishment; this means hyperemia and more edema; i. e. there is an increase in the amount of blood stream immune bodies. Within a few (two to twenty-four) hours, if the eyes are not kept closed (longer if they are), all of the seriously affected cells are thrown off and replaced by younger cells. One can follow this phenomenon by using the slit lamp and corneal microscope on corneal epithelium treated with 1 to 2 per cent silver nitrate. The new cells (*a*) are younger, more active and vigorous, (*b*) have fewer organisms in and among them and (*c*) have almost no precipitated silver. Therefore, the use, twenty-four hours later, of another element would present no problem of drug incompatibility.

Mild protein silver is much milder than silver nitrate and would present no problem of drug incompatibility. The other drugs similarly are less irritating. They were used originally, in part at least, as specifics. The sulfur drugs and zinc are still used specifically by many physicians. They all act for only a short time, as they are diluted, neutralized and thrown off by the tears and mucus which are present in great quantity in acute catarrhal conjunctivitis and which the treatment itself tends to augment. It must be concluded, therefore, that medication introduced into the conjunctival sac is not present in appreciable quantity a few hours later in cases of acute catarrhal conjunctivitis, so that drug incompatibility under the circumstances described is impossible.

Allergy and drug sensitivity exist or can be produced in the conjunctiva as well as in any other tissue. There is a time element here as elsewhere in the formation of such states; usually a week or more must elapse between the original sensitizing dose and the one producing the allergic reaction. Atropine conjunctivitis and mercurial conjunctivitis following surgical operation are well known examples. A number of persons react unfavorably to sulfathiazole, especially in 5 per cent solution or ointment. The reactions are specific; e. g., a mercurial does not sensitize a tissue to hexylresorcinol.

Another angle which must be considered as often complicating the picture is allergy from facial creams, eyelash prepara-

tions of many kinds, nail polish and even foods. Also regional skin disorders such as molluscum contagiosum and seborrheic dermatitis are not infrequently encountered. Finally overtreatment must be avoided.

The answer to the question may thus be summarized: "Probably not; the fact that several physicians treat such a case in such divers ways means that insufficient attention is paid to etiology and the study of inflammatory reactions."

FLUORINE IN WATER SUPPLIES AND DENTAL CARIES

To the Editor:—I have been disturbed about the current practice of advising fluorine filtered or distilled water for children in this area who are under 8 years of age. This has been done as a safeguard against "mottled enamel" in the second teeth, which is endemic here. According to past experimental and clinical observations, notably those of M. V. Smith as published in the University of Arizona Technical Bulletin in 1931, endemic dental fluorosis will occur in a certain percentage of children when the fluorine of the drinking water is 1 part per million. I am cognizant of the recent reports concerning dental caries being lessened by the presence of fluorine in the drinking water but have not seen any reports regarding the relative importance of the two evils or any opinion as to the overlapping of these two defects. What I am disturbed about is a statement I read in *Time*, April 24, to the effect that the health departments of the state of New York and the province of Ontario are adding fluorine to the drinking water of two cities to bring the fluorine content to 1 part per million as a test to prevent dental caries. Are the public health departments ignoring the possibility of dental fluorosis occurring or is there new work to show that dental fluorosis does not occur when the fluorine content of the water is 1 part per million?

D. C. Badger, M.D., Hobbs, N. M.

To the Editor:—I am interested in knowing the medical opinion of the use of fluorine in dental caries. If its use is advisable I should also like to know how to prescribe it.

J. J. McCarty, M.D., Chicago.

ANSWER.—The questions raised in these letters have been thoroughly investigated by Dean and his co-workers, who carried on an extensive epidemiologic survey on the relation of fluorine content in the water supplies to the incidence of mottled enamel and dental caries. Concentrations of fluorine of 1 part per million were found to be ideal in that this proportion prevents dental caries without producing dental fluorosis. In all communities where the water supply contained this concentration of fluorine the dental survey showed low dental caries rates and a low incidence of a mild mottled enamel. "Amounts of fluorine not exceeding 1 part per million of water are not considered of public health significance" (Dean).

The communities in New York which are undertaking the long range studies referred to are Newburgh and Kingston (New York news, THE JOURNAL, May 6, p. 73).

References:

Dean and others: *Pub. Health Rep.* **52:** 1249 (Sept. 10) 1937; **53:** 1443 (Aug. 19) 1938; **54:** 862 (May 26) 1939; **56:** 761 (April 11) 1941.

Fluoride and Dental Caries, Current Comment, THE JOURNAL, Jan. 8, 1944, p. 98.

CORONARY INSUFFICIENCY AND DENTAL PAIN

To the Editor:—Periodically I encounter patients who complain of "pain in the teeth." These patients always show coronary insufficiency. They have as a rule the typical substernal, epigastric and arm pain and radiations. I realize that there are frequent references in the literature to pain in the jaws in coronary occlusion or thrombosis, but I cannot find any reference in which the complaint of "pain in the teeth" is encountered. The patients that I have seen with this complaint contend that they have a severe, painful sensation in the central six to eight teeth, both upper and lower. I should appreciate some comment on this finding.

M.D., Illinois.

ANSWER.—It is distinctly unusual in the experience of one who sees a great deal of coronary insufficiency to find that angina pectoris arising therefrom is referred to the teeth. It is relatively uncommon for heart pain of anginal or other nature to be referred even to the jaws. There are striking exceptions, but they are decidedly uncommon. It would seem probable that any frequent finding of pain in the teeth in patients who have coronary insufficiency is to be attributed primarily not to heart disease but to other trouble of local dental origin or is due to neuralgia.

DIETHYLSTILBESTROL MALE HYPERSEXUALITY

To the Editor:—Has the drug diethylstilbestrol been used in place of a sedative for male patients who show hypersexual activities while in an institution? I have not been able to find any articles in the literature.

George L. Kennedy, M.D., Faribault, Minn.

ANSWER.—A report on the use of diethylstilbestrol in a man with hypersexual activity while in a hospital will be found under the title of "Stilbestrol Induced Gynecomastia in the Male" in THE JOURNAL, Dec. 28, 1940, page 2263, by Dr. C. W. Dunn. There have been no extensive reports of such treatment in the literature. The implications in the more recent attempts to use diethylstilbestrol for the alleviation of prostatic carcinoma and metastases would give further credibility to this type of therapy.

SEVERE HAY FEVER WITH EXPECTED PARTURITION AT HAY FEVER SEASON

To the Editor:—A woman aged 26 is pregnant for the first time and expects her baby around October 1. For the last ten years she has suffered from fall hay fever from September 1 to October 1. Perennial injections with a special mixture containing ragweed and house dust gave no relief in 1942 or 1943. The father also has fall hay fever but is more violently allergic to ragweed than is the mother. Two siblings of the father also have ragweed sensitivity, as manifested by fall hay fever. The patient's pregnancy to date has been completely uneventful. Blood pressure is 114/76; urine is normal. Pelvic measurements reveal an ample gynecoid pelvis. Hemoglobin is 90 per cent. What treatment if any is indicated for her hay fever this year other than purely symptomatic measures? Would desensitization tend to affect the fetus adversely? Is induction of labor at the start of the ninth month (September 1) advisable to prevent parturition during the hay fever season? Would such induction alter the chance of transmission of allergy?

Milton L. Bankoff, M.D., Michigan City, Ind.

ANSWER.—While pollen injections do not affect the fetus adversely, it would seem advisable in a case like this to discontinue attempts at hyposensitization during pregnancy. The reason for discontinuing such treatment is that perennial hyposensitization has failed to give relief.

It is true that some workers in allergy report better results with preseasonal than with perennial treatment in some cases. However, since the first year of treatment in this case may be considered as typical preseasonal treatment and since this failed to give any relief, it would seem advisable not to continue with such treatment. Relief can be given by symptomatic therapy.

There is no reason for preventing parturition during the hay fever season by earlier induction of labor. It would in no way alter the chances of transmission of allergic tendencies, since such transmission is based on hereditary factors.

EXAMINATION OF URINE

To the Editor:—What advantages are there in examining a fresh specimen of urine with and without ordinary urinary preservatives? What is the number of hours that a specimen may be considered "fresh" in order to retain the advantages mentioned? How many of the findings in a specimen of urine may be missed because the examination is made when the specimen can no longer be called a fresh specimen?

M.D., Pennsylvania.

ANSWER.—For accurate examination urine should be examined fresh or else after preservation by cold or chemicals. At room temperature or higher urine begins to decompose rapidly, and after a few hours the various findings may change. Sugar may disappear rapidly. The reaction becomes increasing in acidity or alkalinity or perhaps changes from one to the other. Urea may decrease in amount. Volatile substances are lost. Casts may dissolve in a few hours. Gershenfeld (Urine and Urinalysis, Philadelphia, Lea & Febiger, 1943) says that specimens which are not properly preserved should be examined microscopically within six hours. At times substances usually not present are formed. Naturally since the decomposition is due to bacteria there is a large increase in bacteria; so any bacteriologic examination must be made on fresh or refrigerated urine. The period that urine may be kept without preservatives depends on the weather, but under ordinary conditions six hours is the outside limit and two hours is the preferable limit. Twenty-four hour specimens of urine that are sent through the mail should contain preservatives.

DERMATITIS FROM LOCAL ANESTHETICS

To the Editor:—I am allergic to butyn and to procaine hydrochloride, getting a terrific contact dermatitis. Cocaine does not affect me, but in most cases I prefer not to use cocaine. Do you know of any local anesthetic besides cocaine which has a different chemical formula from that of procaine or of butyn, which I could use with impunity?

J. L. Dach, M.D., Hettinger, N. D.

ANSWER.—Metycaine hydrochloride (benzoyl-γ-[2-methylpiperidino]-propanol hydrochloride) has a structural chemical formula that differs greatly from that of butyn and procaine and also from cocaine. It is a surface anesthetic and may be used for infiltration, block anesthesia and spinal anesthesia. It would be worth a trial in the case cited, since many dentists who have been troubled with procaine dermatitis have found that they can use metycaine satisfactorily. Reference: Lundy, J. S.: Clinical Anesthesia, Philadelphia, W. B. Saunders Company, 1942, page 30.

COMPOSITION OF DENTAL PLATE

To the Editor:—A patient requests information on the use and advisability of a stainless steel plate for teeth. Is it tasteless, and will the secretions of the mouth affect it? This is with regard to an upper plate.

John Conley, M.D., Fort Wayne, Ind.

ANSWER.—The patient probably has in mind the chrome nickel alloy plates. These are tasteless and are not affected by the secretions of the mouth.